GREATER CAMBRIDGE PARTNERSHIP

Growing and sharing prosperity

Delivering our City Deal

7th July 2017

To: Members of the Greater Cambridge Partnership Joint Assembly:

Councillor Kevin Price	Cambridge City Council
Councillor David Baigent	Cambridge City Council
Councillor Tim Bick	Cambridge City Council
Councillor Noel Kavanagh	Cambridgeshire County Council
Councillor John Williams	Cambridgeshire County Council
Councillor Tim Wotherspoon	Cambridgeshire County Council
Councillor Grenville Chamberlain	South Cambridgeshire District Council
Councillor Kevin Cuffley	South Cambridgeshire District Council
Councillor Bridget Smith	South Cambridgeshire District Council
Sir Michael Marshall	Marshall Group
Mark Robertson	Cambridge Regional College
Claire Ruskin	Cambridge Network
Helen Valentine	Anglia Ruskin University
Dr John Wells	Cancer Research UK Cambridge Institute
Andy Williams	AstraZeneca

Dear Sir / Madam

You are invited to attend the next meeting of **GREATER CAMBRIDGE PARTNERSHIP JOINT ASSEMBLY**, which will be held in **THE COUNCIL CHAMBER, SOUTH CAMBRIDGESHIRE HALL, CAMBOURNE** at South Cambridgeshire Hall on **WEDNESDAY, 19 JULY 2017** at **1.00 p.m.**

Requests for a large print agenda must be received at least 48 hours before the meeting.

AGENDA

PART ONE: 1.00pm – 3.30pm

PAGES

1. Election of Chairman

To elect a Chairman of the Greater Cambridge Partnership Joint Assembly for 2017/18.

2. Election of Vice Chairman

To elect a Vice Chairman of the Greater Cambridge Partnership Joint Assembly for 2017/18.

3. Apologies for Absence

To receive any apologies for absence.

4.	**Declarations of Interest** To receive any declarations of interest from members of the Joint Assembly.	
5.	**Minutes of Previous Meeting**	**1 - 12**
	To confirm the minutes of the previous meeting held on 8th March 2017 as a correct record.	
6.	**Questions from Members of the Public**	**13 - 14**
	To receive any questions from members of the public. The standard protocol to be observed by public speakers is attached.	
7.	**Petitions**	
	To note that no petitions for consideration by the Joint Assembly have been received since the last meeting.	
8.	**Rapid Mass Transport Strategic Options Appraisal**	**15 - 24**
	To consider the attached report.	
9.	**Milton Road and Histon Road: Bus, Cycling and Walking Improvements, Delivery Priorities, Local Liaison Process and Design Principles**	**25 - 94**
	To consider the attached report.	
10.	**City Deal Quarterly Progress Report**	**95 - 132**
	To consider the attached progress report.	
	<u>PART TWO</u>: 4.00pm onwards	
	Note: should Part One finish later than 3.30, the 4.00 start time may be later than scheduled.	
11.	**A428/A1303 Better Bus Journey Scheme - further scheme development update**	**133 - 154**
	To consider the attached report.	
12.	**Cross-City Cycling - Determination of Traffic Regulation Orders**	**155 - 182**
	To consider the attached report.	
13.	**City Access Strategy**	**183 - 232**
	To consider the attached report.	
14.	**Improving Greater Cambridge Partnership Governance**	**233 - 268**

To consider the attached report.

15. Date of Next Meeting

To note that the next meeting will take place at 2.00 p.m. on Wednesday 13th September 2017.

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GREATER CAMBRIDGE CITY DEAL

Securing future prosperity

GREATER CAMBRIDGE CITY DEAL JOINT ASSEMBLY

Minutes of the Greater Cambridge City Deal Joint Assembly held on
Wednesday, 1 March 2017 at 2.00 p.m.

PRESENT:

Members of the Greater Cambridge City Deal Joint Assembly:

Councillor Roger Hickford	Cambridgeshire County Council (Chairman)
Councillor Kevin Price	Cambridge City Council (Vice-Chairman)
Councillor Tim Bick	Cambridge City Council
Councillor Noel Kavanagh	Cambridgeshire County Council
Councillor Maurice Leeke	Cambridgeshire County Council
Councillor Kevin Cuffley	South Cambridgeshire District Council
Councillor Bridget Smith	South Cambridgeshire District Council
Councillor Tim Wotherspoon	South Cambridgeshire District Council
Sir Michael Marshall	Marshall Group
Claire Ruskin	Cambridge Network
Andy Williams	AstraZeneca
Dr John Wells	Cancer Research UK Cambridge Institute

Members or substitutes of the Greater Cambridge City Deal Executive Board in attendance:

Ian Bates	Cambridgeshire County Council
Lewis Herbert	Cambridge City Council (Executive Board Chairman)

Officers:

Graham Hughes	Executive Director Economy, Transport and Environment, Cambridgeshire County Council
Tanya Sheridan	Programme Director, Greater Cambridge City Deal
Jeremy Smith	Head of Transport & Infrastructure Policy and Funding, Cambridgeshire County Council
Rachel Stopard	Interim Chief Executive, Greater Cambridge City Deal
Chris Tunstall	Interim Transport Director, Greater Cambridge City Deal
Victoria Wallace	Democratic Services Officer, South Cambridgeshire District Council

1. APOLOGIES

Apologies for absence were noted from Sir Michael Marshall, Mark Robertson and Andy Williams.

2. DECLARATIONS OF INTEREST

Claire Ruskin declared a non–pecuniary interest in relation to discussions regarding the Cambridge Promotion Agency.

3. MINUTES OF PREVIOUS MEETING

The minutes of the meeting held on Wednesday 18 January 2017 were agreed as a correct record.

4. QUESTIONS FROM MEMBERS OF THE PUBLIC

The Chairman informed the Joint Assembly that seven public questions had been received, four of which would be taken at the meeting under agenda items six and eight. A new process would be implemented whereby a log of public questions would be published after each meeting.

Councillor Bridget Smith requested that the notice of public questions be sent to Joint Assembly members earlier than the day before the meeting. The Chairman informed members that the deadline for public questions was not long before the meeting and that the public question process was being ironed out and would become quicker in future.

5. PETITIONS

No petitions had been received.

6. CITY DEAL PROGRESS REPORT

Richard Wood was invited to ask his pre-submitted public question, as detailed in the notice of public questions.

The City Deal Programme Director presented the City Deal progress report and responded to Mr Wood's question, informing him and the Joint Assembly that the City Deal would not become a Local Transport Authority under devolution proposals. This would be a role for the forthcoming Cambridgeshire and Peterborough Combined Authority, which would inherit some but not all transport powers from the County Council.

Joint Assembly members discussed the report. The main points of discussion were:

- In response to a query from the Chairman, officers confirmed that the City Deal was potentially a £1 billion investment programme.
- The Joint Assembly was informed that the first phase of the City Deal's website redevelopment project would be delivered in April/May 2017. A note to inform Joint Assembly members of the website project would be circulated.
- In response to a query regarding what was meant by the City Deal investing in the Housing Development Agency, the City Deal Programme Director clarified that the City Deal was providing support financially to organisations delivering housing.
- Councillor Bick pointed out that the score of Risk 2 in the risk register, should be 5.
- The Joint Assembly was informed that a meeting would take place with Highways England on 10 March 2017, which the Chairman of the City Deal Executive Board

would attend.

- It was clarified that the Smart Cambridge workstream was an enabling stream of work and was not about creating jobs.
- Councillor Bridget Smith requested that:
    - When talking about housing, the City Deal specify this is housing on rural exception sites and non local plan sites.
    - That the word 'key' be removed in reference to members as it was felt that all members were key and should be involved.
- Councillor Smith felt that little funding had been secured for match funding and that this should be regarded as a higher risk. The Chairman advised that this would be kept under review.
- Councillor Cuffley asked what direct input the City Deal had had in the growth of apprenticeships. In response to this, the Joint Assembly was informed that the City Deal's main input had been in funding the events and outreach work of Form the Future, which linked students, employers and training providers. The outputs and benefits of these activities would be evaluated. Members were informed that Councillor Bick and Claire Ruskin were part of a skills group which monitored and evaluated the outputs of this work.

The Joint Assembly **NOTED** the City Deal progress report.

7. 2017/18 BUDGET SETTING

The City Deal Programme Director presented the Budget Setting 2017/18 report which Joint Assembly members discussed.

Councillor Cuffley commented that investment in the Smart Cambridge programme seemed low and asked if the budget could be reviewed. The City Deal Programme Director advised that the investment would do much to support the smarter aspects of the transport strategy and that for the time being, this was the investment that was needed. The Joint Assembly was informed that the £1.6 million investment had the potential to leverage further funding, including EU funding, and that further proposals coming forward would not be ruled out.

In response to a question from Councillor Smith, the Joint Assembly was informed that:

- The revenue to fund the strengthening of City Deal programme management, governance, strategy and coordination capacity and funding finance and democratic services support, would come from the new homes bonus.
- The operations and infrastructure budgets were kept separate.
- The Gateway Review referred to in the report would be an economic assessment by the Government on City Deal and development schemes.
- It was agreed in November 2016 that there should be allocations for finance and democratic services support for the City Deal.
- Officers clarified that some schemes could go into either the operations or infrastructure budgets.

In response to concern raised by Councillor Smith regarding the short term nature of interim support to the City Deal, the City Deal's Interim Chief Executive informed members that part of her remit was to look at the long term fit for purpose structure, and to plan for the future.

Councillor Smith requested an up to date list of all City Deal officers and their contact details be provided to Joint Assembly members.

Chris Tunstall was introduced to the Joint Assembly as the City Deal's Interim Transport

Director.

Councillor Smith pointed out that the risk of achievability of S106 receipts was only marked as amber on the risk register.

In response to Councillor Bick's question regarding government triggers, the Joint Assembly was informed that the triggers were:

1. Whether the City Deal was on track and on budget according to final business cases.
2. If anything had already been delivered, whether it had delivered the benefits that were outlined in the project's final business case.
3. Whether investment and infrastructure delivered had delivered economic growth. The Government acknowledged that this was hard to measure.

In response to a question from Councillor Kavanagh, the Joint Assembly was informed that the £100,000 investment would deliver four electric vehicle charging points and that the City Council had put in place a strategy for affordable and convenient electric vehicle charging points strategy. Joint Assembly members expressed surprise and concern at the cost of the four charging points, which would only be for use by taxis. In response to this concern members were informed that the initial £100,000 investment would trigger further funding, which would result in 19 fast and 21 rapid charging points. Members were informed that the City Deal and City Council would each provide £100,000 of funding and the Office for Low Emission Vehicles (OLEV) would provide £350,000. The Joint Assembly was reminded that the City Deal was contributing to a wider project and that further information on the electric vehicle charging point strategy and its delivery, would be circulated to members.

In response to concern raised that the electric vehicle charging points would only be for taxis, it was explained that the rationale for this was that the city's diesel taxi fleet contributed significantly to pollution in Cambridge.

The Chairman requested a paper on electric vehicle charging points be presented to the Joint Assembly in June 2017, to include costings and the vision for charging points for residents.

Councillor Bick expressed concern for the potential for councils to claim money from the City Deal to deliver services for which they were responsible. Whilst it was hoped this would not happen, Councillor Bick asked how the City Deal would gate keep this. In response to this the City Deal Programme Director highlighted the challenge sessions referred to in the report, which would challenge whether projects were additional to existing projects and whether they delivered the City Deal objectives.

Concern was raised by a number of members that not enough information was available in the report to allow the decisions being requested to be made:

- Councillor Smith expressed particular concern about this in relation to electric vehicle charging points and rural transport hubs, and advised that these be omitted until further information had been presented.
- Councillor Bick advised that the Joint Assembly should have reports presented to it regarding the strategic planning and transport framework, before spending was agreed.
- In response to concern raised by Councillor Bick regarding the lack of business cases, the City Deal Programme Director advised that the provision of proportionate business cases had been agreed, with more detail being provided as appropriate. The Interim Chief Executive informed members that where the Executive Board was being asked to commission feasibility studies, these would

be presented on completion along with further proposals and business cases.

- In response to the concerns raised, the City Deal Programme Director drew the Joint Assembly's attention to the appendix to the report which set out the business cases and analysis of the proposals for additional spend. The Joint Assembly was informed that reports would be brought back to the Joint Assembly regarding bigger projects that required bigger spends.
- The City Deal Programme Director referred to the projects listed in the appendix to the report, providing clarification to Joint Assembly members on what the Executive Board was being asked to agree to regarding each project.
- In relation to the concerns raised by some Joint Assembly members regarding a lack of information and business cases, Helen Valentine pointed out that more detail regarding each project was provided later in the report and advised that the charging points project be proceeded with, but that a report be brought back to the Joint Assembly at a later date regarding larger scale roll out of charging points for private electric vehicles.

The Joint Assembly was informed that a bid had been submitted for a project to look at the joining up of networks and systems in order to make best use of pollution monitoring data. Councillor Baigent expressed a wish to see pollution level indicators displayed on the street in order to make the public aware of pollution levels.

Following the discussion and debate, the Chairman summarised the concerns raised by the Joint Assembly as regarding:

- Investment in electric vehicle charging points across Cambridge
- Feasibility work on South Cambridgeshire travel hubs
- The Greater Cambridge strategic planning and transport framework
- Scaling up the Smart Cambridge programme programme and attracting further investment in data and technologies.

Taking into account the concerns raised, the Joint Assembly **RECOMMENDED** that:

1. The Executive Board agrees to allocate additional or new resource to:

    (i) Developing up to 12 cycling 'greenways' in South Cambridgeshire (£480K for development work over 2 years (2017 – 2019)).
    (ii) City Access project – invest £5.045m to accelerate the delivery of the eight point plan. The need for significant resources was detailed in paragraph 13 of the January 2017 Board report. It enables the parallel and balanced progression of the eight delivery plans, including prioritisation of a parking strategy (£250K) and required staffing resources (£702K).
    (iii) Co-investment in electric vehicle charging points across Cambridge (£100K one off cost in 17/18).
    (iv) Travel audit to support case for Cambridge South Station and future transport requirements for the Biomedical Campus (£150K one off cost in 17/18).
    (v) Initial feasibility work on South Cambridgeshire Travel Hubs, including on key routes (£100k one off cost in 17/18).
    (vi) Strengthening programme management, governance, strategy and coordination capacity and funding finance and Democratic Services support (£339K over 3 years, mostly up front investment).
    (vii) Strengthening public engagement and communications by investing in better systems, capacity and expertise (£338K over 3 years).
    (viii) One year funding to Cambridge Promotions Agency to transition to fully-funded model (£40K).
    (ix) Greater Cambridge strategic planning and transport framework – towards 2050

(£230K one off cost in 17/18).

(x) City Centre spaces and movement framework (£150K one off cost in 17/18).

(xi) Scaling up the Smart Cambridge programme and attracting further investment in data and technologies (£1.640m over 3 years). It will focus on three aspects:(a) Better quantity, quality and use of data to improve information available to citizens, (b) Embedding digital solutions and emerging technology in City Deal work streams to ensure long term sustainable success, and (c) A collaborative approach that uses the power of digital technologies to galvanise the business, community and academic sectors to work together and use their combined strengths to produce better outcomes for Greater Cambridge.

2. That the Executive Board considers later in the year the following two indicative requests and to develop detailed business cases to enable Board decisions:

(i) Implementation of Residents' Parking Schemes within Cambridge City (indicative maximum of £1.0 m over 3 years).

(ii) Scaling up original pilot skills work on stimulating business demand for apprenticeships and improving careers advice in schools into second phase of activity and investing in a wider reach (indicative maximum of £2.1m over 3 years).

3. That the Executive Board notes:

- The financial position, including that all partner authorities have agreed to contribute 40% of their respective New Homes Bonus (NHB) allocation from 2017/18 to 2019/20.
- That if the proposed allocations are approved, this would mean an over-allocation of existing available resources of £4.8m, which would have to be treated as a managed risk to be offset with either new Tranche 2 funding, other funding, or reductions in agreed schemes in future years. Given over half the Infrastructure Programme budget is forecast to be spent beyond 2020 this is considered an appropriate strategy to maximise outcomes within available resources.
- The "Programme management and early scheme development including Tranche 2 prioritisation" budget has been reduced from £10.45m to £4.95m.
- That further to the Financial Strategy agreed last November, all infrastructure Schemes profiles have been updated to reflect the latest estimated forecast of expenditure across the years, with total forecast spend unchanged (except in "Programme management and early scheme development", see above, which has reduced).
- The existing £3m "City centre capacity improvements" budget has been moved into the Operations Budget along with the proposed new funding so it is all in one place.
- That all existing commitments will be reviewed on an annual basis to inform financial profiling and prioritisation of resources.
- That funding is treated flexibly between the Infrastructure Budget and the Operations Budget, where necessary, to maximise the use of resources.
- In 2018, a two year budget will be developed in order to align with external factors e.g. Gateway Review

8. A1307 THREE CAMPUSES TO CAMBRIDGE BUS, CYCLE AND WALKING IMPROVEMENTS - CONSULTATION RESULTS AND SELECTION OF PREFERRED OPTION

Antony Carpen, Robin Heydon and Jim Chisholm asked their pre-submitted questions, as detailed in the notice of public questions.

Graham Hughes, Cambridgeshire County Council, presented the A1307 three campuses to Cambridge report. The public questions were answered during the presentation of this report.

In response to his question, Mr Carpen was informed that a Cambridge-Haverhill railway line had been discounted for the following reasons:

- Rail was a very expensive form of infrastructure to deliver. This scheme would cost £390 million, with a very low benefit to cost ratio (BCR). The scale of the scheme and likely benefit returned could not justify City Deal investment.
- Capacity constraints of sharing light rail with heavy rail existed south of Cambridge station.
- Parts of the track had been removed between Cambridge and Haverhill, making reinstatement difficult and expensive.

An overview of the public consultation responses was provided. It was explained that modelling in developing the proposed options, had included all planned growth and development to 2031.

In response to Mr Heydon's question, the following points were made:

- The need to provide high quality cycling standards was agreed with.
- Design standards used were TA9105 and TA9005 along with Sustrans and Camcycle guidance.
- The great benefit from working closely with Camcyle and other organisations was recognised, in order to develop and make changes over and above the design guidance.
- Highways England was being worked closely with regarding the proposals to cross the A11. The City Deal would also like to work with Camcylcle in order to develop the concepts into more detailed schemes.
- Mr Heydon expressed further concern regarding the 10 metre width of land to contain both bus and cycle facilities, advising that the strip of land should be 15 metres wide. In response to this, Mr Hughes advised that there was always a balance between funding and land available and the schemes that could be provided. This scheme was at the concept stage and therefore further debate would be welcomed in order to work out the balance with this scheme.

In response to Mr Chisholm's question, the following points were made:

- Decisions on projects were not only based on benefit to cost ratio (BCR).
- Focus had been on the A1307 corridor, with the creation of infrastructure for this route thought to be logical and sensible.
- Greenways if developed would be very attractive, however it was recognised that many cyclists wanted to get directly from their start point to destination and often this meant cycling on a road, so the routes proposed here were also considered necessary.
- It was important not to see this package of measures in isolation, but to consider how it integrated with other schemes.

Councillor Tony Orgee, Chairman of the A1307 Local Liaison Forum (LLF), was invited to

speak. Councillor Orgee updated the Joint Assembly on the LLF discussions regarding the A1307, making the following points:

- Councillor Orgee informed the Joint Assembly that the A1307 report had only been made available three hours before the LLF meeting at which the proposals were discussed. The LLF did not feel that this was acceptable.
- Improvements to signalised junctions and westbound bus lanes in Linton had been discussed at length by the LLF. Councillor Orgee highlighted that nothing had been included in the proposals regarding improving bus journeys eastwards as well as westwards.
- It was felt that there had been a lack of consultation with Linton Parish Council, as well as other neighbouring areas and councils.
- The broad principal of new and improved cycleways was very much accepted by the LLF.
- The cycleway bridge over the A11 was not user friendly. It was felt that ramped access was needed and safety railings were not high enough.
- It was felt that improvements to the cycleway on Babraham Road were urgently needed.
- Problems were raised with all of the suggested park and ride sites. The LLF supported a park and ride to the east of Linton.
- Concerns were raised regarding the details of the proposals of a new westbound bus lane between the new park and ride site and Hinton Way roundabout.
- The LLF had found it difficult to engage on the proposal of a new segregated bus route from Babraham Road park and ride to the Biomedical Campus, as it was unsure if this was on or off road. Questions were raised regarding whether some of the proposals were feasible and whether all landowners had been consulted in case more land needed to be purchased to deliver projects. Concern was also raised as to whether other councils had been consulted on proposals.
- A vote was taken at the LLF meeting, the result of which agreed that a pause should be taken for further work to be undertaken before a decision on the A1307 corridor was made by the City Deal Executive Board. Approximately 30-35 people had attended the LLF meeting.
- In response to Councillor Orgee, Mr Hughes apologised for the lateness of the A1307 report.

The Joint Assembly discussed and debated the proposals. Councillor Cuffley raised concerns, making the following points:

- It was felt that there was a lack of a holistic overview, with neighbouring areas such as Bury St Edmunds, Newmarket and Royston having not been consulted. Furthermore Sawston, Babraham and the Genome Campus had neither been considered nor consulted.
- It was pointed out that a bus lane needed to be eastbound and westbound, so that people could be taken to work and back.
- The project should be paused as so much critical detail was lacking.

In response to Councillor Cuffley's concerns, Mr Hughes emphasised that proposals were not detailed at this stage and were broad recommendations on concepts. Consultation would take place on these and further work and modelling would then be undertaken.

Councillor Smith commended officers for the quality of the report and was pleased that value for money had been a key consideration. However, Councillor Smith raised concerns and agreed with Councillor Orgee and the Local Liaison Forum, that proposals were premature. Councillor Smith advised that time should be given to allow new technologies to come forward and for other initiatives to bed in first so that different projects did not clash and negate each others benefits. She also advised that city access

work should be undertaken first. Councillor Smith therefore called for a pause to the A1307 project.

Claire Ruskin advised that these were sensible proposals with great potential that should be progressed rapidly. Ms Ruskin expressed support for the proposals to move forward and for further work and consultation to take place as part of this rather than pausing. In response to the concerns raised by Councillor Smith, Ms Ruskin advised that these proposals would complement any emerging new technologies.

Councillor Baigent expressed support for the wider cycleway. He asked what would happen to the other road traffic if a segregated bus lane was built, raising concern that traffic would be able to move faster and get in front of buses, thereby blocking the buses on their exit from the busway. Councillor Baigent suggested restrictive measures on cars to prevent this happening should be considered.

Councillor Bick advised that the roads were at risk of backfilling with more traffic unless proper demand management systems were put in place.

In response to a question from Councillor Bick, the Joint Assembly was informed that the park and ride would not necessarily reduce the number of buses from Sawston to the city and may offer the opportunity to increase the number of buses and services. The example of St Ives was given, where the guided busway had led to an increase in bus services from St Ives and had not reduced the services from the surrounding villages, while also leading to a 2% reduction in traffic on the A14. Councillor Bick raised concern that an impact of the park and ride site could be an increase in traffic caused by people driving from Sawston to the park and ride.

Dr Wells advised that the A1307 was an important and major route serving the biomedical campus. He encouraged the project's momentum be maintained while addressing the concerns raised, pointing out that the route was congested and dangerous and was key for the biomedical campus.

Concern was raised regarding lack of integration, with the importance of join up of the whole route from Haverhill to the biomedical campus and on to the city centre. It was felt that the Addenbrooke's roundabout could cause a problem at a later date.

The following was advised:

- Detail of elements such as turning points for buses in the biomedical campus needed to be considered, in order to provide an effective service.
- Worts' Causeway could be looked at as an additional bus route as this was already used by bus drivers.
- That the collecting mechanisms to get more people on buses be considered, such for example a park and ride further out in order to enhance flow.
- The solution to ease congestion between the park and ride site and the Addenbrooke's roundabout should maintain a pedestrian route. Concern was raised that this may be squeezed out by a busway due to the narrowness of the road.
- Access of emergency vehicles needed to be considered so that their movement was not restricted.
- Dr Wells advised that papers needed to set out in a quantative way what the road was being designed to deliver, setting out a clear design requirement. It was pointed out that while 16,000 people worked on the biomedical campus, the bus route only delivered 1600 people there.

Councillor Price expressed his understanding of the views of the Local Liaison Forum, however agreed that the A1307 should not be paused.

Councillor Kavanagh expressed support for the project to continue to proceed, pointing out that nearly 1500 people responded to the public consultation, most of which supported the proposals. He also felt that this route was too important for the project to be paused given it was dangerous and that more casualties along the route were likely to occur if the project was paused. He felt that the proposal of a second park and ride site along the route was very positive.

Councillor Wotherspoon, expressed the view as a cyclist that the A1307 corridor was a treacherous route for cycling and that something needed to be done about it. Councillor Wotherspoon expressed support for maintaining the project's momentum whilst acknowledging the concerns raised by the LLF. He also made a plea for the future proofing of plans.

Helen Valentine expressed support for maintaining momentum, pointing out that there would be no pause in growth of the biomedical campus and other research parks.

Councillor Smith called upon the City Deal to bear in mind and address customer satisfaction as does Highways England on its major schemes. She advised a short pause to run high quality customer workshops, pointing out that in other areas she thought that the City Deal may risk judicial review due to a lack of public engagement and consultation. She advised the opportunity be taken at an early stage for the City Deal to take its customers with it.

Claire Ruskin advised that workshops were part of the next phase and that there was no need to pause the project in order to allow for workshops to be undertaken, but that these should be done alongside the continuation of work.

Councillor Cuffley expressed support for customer workshops to be undertaken.

Councillor Orgee informed the Joint Assembly that the Local Liaison Forum consisted of county, district and parish councillors. He clarified that in advance of the meeting, officers had been asked to keep their presentation brief, however this was advised on the assumption that the A1307 report would be received on time, which it was not and as such LLF members had not had the background knowledge for what was being presented to them. Councillor Orgee advised that the traffic congestion from Haverhill to the city centre needed to be addressed as buses got held up in this.

Due to the concerns raised, the Chairman proposed that the second public consultation exercise should be delayed until September 2017, to allow for workshops to take place with the LLF and councillors, which would inform the consultation. A vote was taken on this proposal with eight Joint Assembly members voting in favour and three against.

The Joint Assembly **RECOMMENDED** that the Executive Board:

a) Notes the draft Consultation Report for publication on the GCCD website.

b) Reviews the preferred options and approves further technical work to develop and refine the options, which improve public transport reliability, connectivity and access through park & ride expansion, proposals to deliver bus priority and increased cycling through improved infrastructure to support sustainable travel between homes and jobs, particularly:

i) Road safety enhancements between Linton and Horseheath.
ii) Improvements to signalised junctions and westbound bus lanes in Linton.
iii) Measures to improve bus journey times through Linton High Street.
iv) New and improved cycleways between Babraham and Great Abington / Granta Park.
v) A new park and ride site near the A11.
vi) A new westbound bus lane between the new park and ride site and Hinton Way roundabout.
vii) A new segregated bus route from the Babraham Road park and ride site to the Cambridge Biomedical Campus (CBC). Further work alongside future City Deal prioritisation work will determine if this route is to be on road or a new off road route;

(c) *Endorses a second public consultation exercise on the preferred options to commence in September 2017 after further workshops have taken place with Local Liaison Forums and councillors, and agrees a delegation to finalise consultation materials.*

(d) Approves a one-off spend of £25,000 to undertake some transport modelling, as part of pre-Strategic Outline Business Case work on the dualling of the A1307 between Haverhill and the A11.

9. INDUSTRIAL STRATEGY

The City Deal's Interim Chief Executive presented the report seeking input to help shape the key themes that Greater Cambridge partners wished to emphasise in response to the Government's Industrial Strategy.

Claire Ruskin advised that submissions from all organisations around Cambridge known to want to make a response to this strategy, be coordinated and aligned with and that submissions cross referenced other organisations.

Councillor Bick advised that as clustering had been a factor giving rise to Cambridge's industrial success, this needed to be an important theme of the response. Councillor Bick also emphasised the importance of place base to the strategy.

The Joint Assembly was informed that the Head of Corporate Strategy, Cambridge City Council, would lead on this.

The Joint Assembly **RECOMMENDED** that the Executive Board:

a) Identifies any key themes or issues that should be emphasised in the Greater Cambridge response to the Government's Green Paper "Building our Industrial Strategy"
b) Delegates authority to the City Deal Interim Chief Executive, in consultation with the Executive Board, to work with partners and stakeholders to develop a response to be submitted to Government by 17 April 2017.

10. DATE OF NEXT MEETING

The date of the next meeting, to be held on Wednesday 7 June at 2pm, was noted.

The Meeting ended at 5.40 p.m.

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Agenda Item 6

Questions by the public and public speaking

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

(a) notice of the question should be given to the Democratic Services team at South Cambridgeshire District Council (as administering authority) by 10am three working days before the meeting;

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

(c) questioners cannot make any abusive or defamatory comments;

(d) if any clarification of what the questioner has said is required, the Chairman will have the discretion to allow other Assembly members to ask questions;

(e) the questioner will not be permitted to participate in any subsequent discussion and will not be entitled to vote;

(f) the Chairman will decide when and what time will be set aside for questions depending on the amount of business on the agenda for the meeting. Normally questions will be received as the first substantive item of the meeting;

(g) individual questioners will be permitted to speak for a maximum of three minutes;

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

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GREATER CAMBRIDGE PARTNERSHIP

Growing and sharing prosperity

Delivering our City Deal

Report To:	Greater Cambridge Partnership Executive Board	26 July 2017
Lead Officer:	Chris Tunstall, Interim Transport Director	

Rapid, mass transport Strategic Options Appraisal

Purpose

1. The purpose of this report is to ask the Board to proceed with a Strategic Options Appraisal into rapid, mass transport options for Cambridge City and the surrounding travel to work area in conjunction with the Cambridgeshire and Peterborough Combined Authority.

Recommendations

2. It is recommended that the Executive Board:
   (a) Commission a strategic options appraisal study into rapid, mass transport options for Cambridge City and the surrounding travel to work area in conjunction with the Cambridgeshire and Peterborough Combined Authority.
   (b) Agree a total budget allocation of £150,000 in 2017/18 for the delivery of the strategic options appraisal study.

Reasons for Recommendations

3. The Options Appraisal will enable the Board and the Cambridgeshire and Peterborough Combined Authority to determine the most appropriate form of mass rapid transit to meet Greater Cambridge's transport requirements for future consideration.

4. The total cost is estimated to be in the region of £150,000, half of which is expected to be met by the Combined Authority. It is likely therefore that the full extent of the outturn cost to the Partnership will be in the region of £75,000.

Background

5. The Greater Cambridge Partnership Executive Board and the Combined Authority are seeking to appoint a Consultant to provide expert independent advice in undertaking a Strategic Options Appraisal to determine the best option for providing rapid, mass transport and achieving a fundamental modal shift in Cambridge City and the surrounding travel to work area with the aim of:
   - Supporting economic growth – recognising the critical significance of the Greater Cambridge economy for the area as well as for the UK.
   - Improving accessibility and connectivity across the city-region to boost economic growth and prosperity.
   - Addressing current congestion and delay and building intelligent mobility within Cambridge City and the rest of the transport/infrastructure network.

6. This Option Appraisal will enable the most appropriate form of mass rapid transit to be identified for possible future feasibility work and development of full proposals.

7. The schemes currently being developed within Tranche 1 will be done so based on future proofing for possible implementation of the identified appropriate form of future mass rapid transit where required.

Procurement

8. The Option Appraisal will be jointly procured and managed with the Combined Authority through normal procurement procedures.

Implications

9. 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

10. The cost can be met from within approved budgets.

Legal

11. The Appraisal will be procured in line with the County Council procurement procedures.

Report Author: Chris Tunstall – Interim Transport Director
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Appendix 1

Cambridge Rapid, Mass Transport Strategic Options Appraisal: Study Brief

1. Purpose

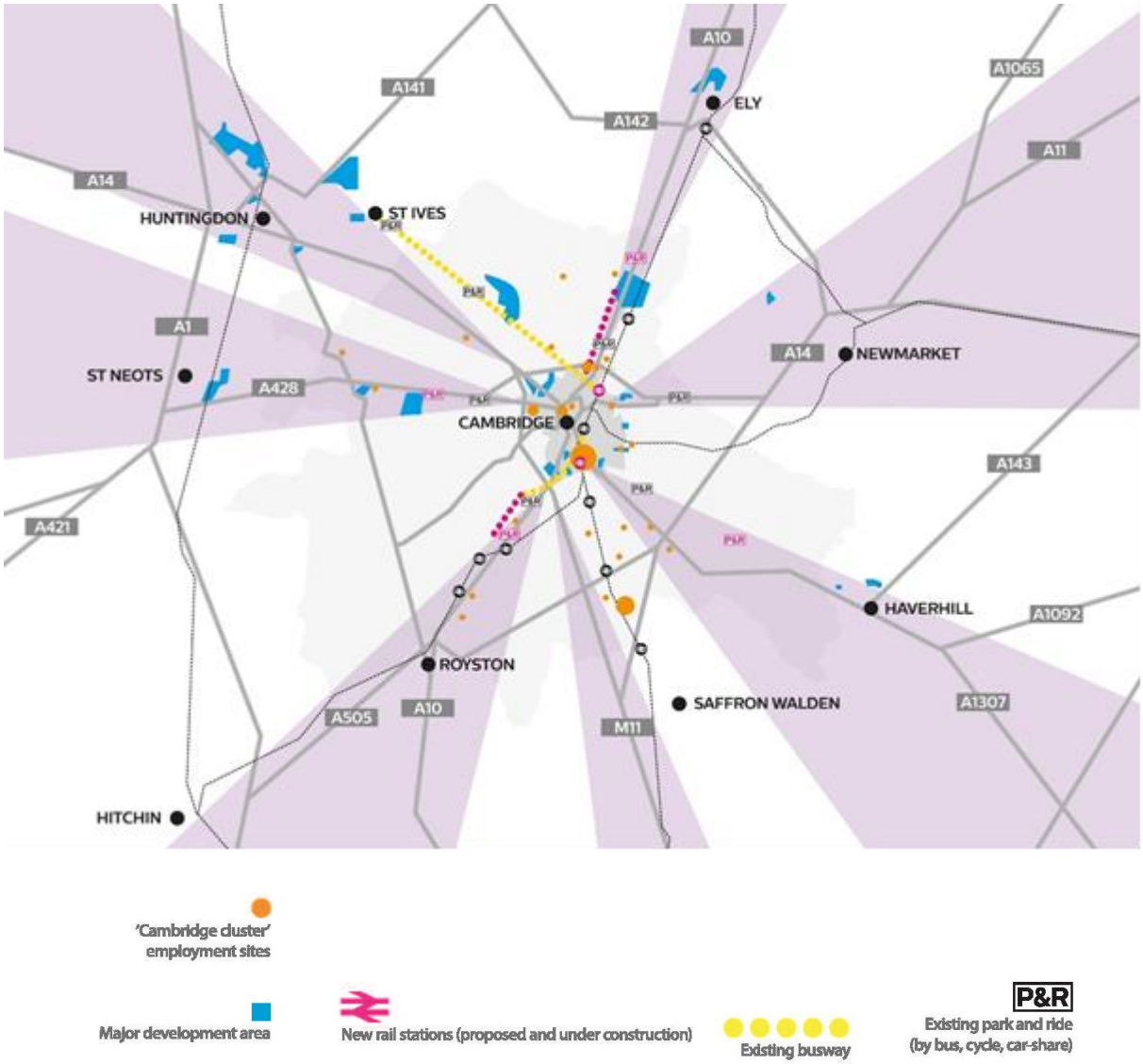
1.1 The Cambridgeshire and Peterborough Combined Authority and the Greater Cambridge Partnership Board wish to commission a Strategic Options Appraisal to assist in the development of its ambitions to provide rapid, mass transport in Cambridge City and the surrounding travel to work area.

2. Introduction / Context

2.1 The Combined Authority and the Greater Cambridge Partnership Board are seeking to appoint a Consultant to provide expert independent advice in undertaking a Strategic Options Appraisal to determine the best option for providing rapid, mass transport and achieving a fundamental modal shift in Cambridge City and the surrounding travel to work area with the aim of:

- Supporting economic growth – recognising the critical significance of the Greater Cambridge economy for the area as well as for the UK
- Improving accessibility and connectivity across the City to boost economic growth and prosperity
- Addressing current congestion and delay and building intelligent mobility within Cambridge City and the rest of the transport/infrastructure network.

2.2 The figure below illustrates a high-level schematic of both the Inner City and the wider Cambridge area, showing the key concentrations of housing (new and existing communities), employment sites and the transport network. The options appraisal should consider both the Inner City and scalable and extendible options for the wider Cambridge area (Hinterland). Full details of the intended housing and employment sites can be found in the Cambridge and South Cambridgeshire Local Plans 2031 which are currently being examined in public.



2.3 The outputs of the study will inform future strategic planning and investment decision-making for the area.

2.4 Links to key Greater Cambridge Partnership Documents can be found at paragraph 11, however it is the responsibility of the successful Consultant to ensure they have all available/relevant documentation.

3. Strategic Options Appraisal

3.1 The Combined Authority and Greater Cambridge Partnership Board are seeking to appoint a Consultant to provide expert independent advice on the most viable solution for Cambridge City and the surrounding area from the following underground and overground rapid transport modes:

- Light Rail (ref e.g. Cambridge Connect)
- Monorail
- Bus Rapid Transit
- Affordable Very Rapid Transport (see attached report)
- Any other modes identified by the consultant (see paragraph 3.3)

3.2 The strategic options appraisal should consider, for each option, the pros/cons and viability in respect of the most efficient and effective way to deliver passengers to

Cambridge City and key employment sites. In doing this it should also consider underground options within the City and how this impacts on the viability of the above options. In developing the pros/ cons and viability for the options they should be clearly based, and shown separately, on an inner city and wider Cambridge area (hinterland) basis.

3.3 At the outset it is anticipated that a working session(s) will be required with key stakeholders from the Combined Authority, Greater Cambridge Partnership Board and the member local authorities to confirm the development ambitions and confirm the rapid/mass transport options to be considered (the list in 3.1 above is based on the Combined Authority's and Greater Cambridge Partnership Board's current judgement/POV. For example, the Consultant might suggest other/additional options based on their knowledge and experience from other comparative cities particularly in respect of underground options.

3.4 The Consultant will provide advice and prepare an analysis and assessment of the current and future context and characteristics of Cambridge City and its travel to work area based on 'Cambridge 2031' (Situational Assessment) including but not limited to:

- Economic factors
- Geography
- Demographics
- Employment
- Movement, commuting and travel patterns
- Development plans
- Productivity

3.5 The Consultant will prepare a Strategic Options Appraisal Framework and present and agree this with the Project Board and other relevant stakeholders as required. It is anticipated that the framework will include the detailed assessment themes including but not limited to:

- Capex / Opex
- Deliverability
- Environment
- Passenger capacity
- Risks

3.6 The Consultant will undertake the appraisal, setting out the necessary considerations for each of the options both over ground and underground (paragraph 3.2). This will include reference to evidence and lessons learned from other, similar cities, both UK and abroad. For each option the appraisal should include, but is not limited to the following:

- Description / Features
- Success factors & constraints for development and delivery
- Factors impacting viability e.g. geographic and demographic, population density, catchment, reliability, ease of interchange, capacity etc
- Prerequisites for delivery
- Operating model – including for example capacity, charging, affordability for passengers, constraints e.g. flexibility of operation at key times, speed of operation etc
- Timescales for implementation

3.7 The Consultant will provide advice, based on examples from other cities about the most effective business operating model, including partnership, joint venture and investment options setting out the relevant governance and control mechanisms. The

Consultant will set out the specific revenue and capital funding that would be required from the Combined Authority to progress these options.

3.8 The Consultant will provide advice about potential funding sources and assist in preparation of bids for appropriate available funding.

3.9 The Consultant will conduct a strategic options appraisal workshop with key stakeholders from the Combined Authority and Greater Cambridge Partnership Board to present the strategic options analysis and assessment.

3.10 The Consultant will prepare a strategic options appraisal report, providing sufficient information to support decision making and assist in the development of an outline strategic business case (in accordance with Government / Treasury guidelines) for the preferred option.

3.11 This Study Brief is for the Strategic Options Appraisal. The Combined Authority and Greater Cambridge Partnership Board would like the Consultant to outline the approach and costs in taking forward the preferred option to Outline Strategic Business Case.

3.12 Deliverables - The following outputs will be required from this commission:

- A detailed Situational Assessment of the current and future context and characteristics of Cambridge City and its travel to work area
- Strategic Options appraisal framework
- Strategic Options appraisal report including sufficient information to assist in the development of an outline strategic business case (in accordance with Government / Treasury guidelines) for the preferred option and written advice on delivery, funding, risks.
- Non-Technical Summary of outputs.

3.13 It is expected that all written reports will be prepared to the highest standard.

3.14 Visibility is required on all costs.

3.15 Assumptions made should be clearly detailed.

4. Situational Assessment

4.1 The situational assessment will summarise the current and future features of Cambridge City and its travel to work area. This will provide the context for the appraisal of options.

5. Strategic Options Appraisal Framework and Report

5.1 The Strategic Options Appraisal Framework will be presented to and agreed by the Project Board.

5.2 The report will set out details of the considerations that the Combined Authority will need to take into account in making a decision about the optimum rapid, mass transport option.

5.3 The Strategic Options Appraisal Report is expected to include the full analysis for each option; it is anticipated that it will include details on the following issues:

- Capital and revenue costs providing a breakdown by expenditure type

- The delivery prerequisites / technical requirements

- Detailed projected operational costs and income, together with projections of turn-over and profit before tax

- Details of minimum, maximum and optimum capacity, and break-even points

- Key risks and other factors that the Combined Authority and Greater Cambridge Partnership Board will need to consider

- Details of any statutory/legislative compliance requirements that will need to be adhered to

- Implementation timescales

- Sufficient detail must be provided to support assumptions and recommendations.

5.4 The Strategic Options Appraisal report will be used to assist with decision making and the Combined Authority and Greater Cambridge Partnership Board wish to see sufficient information to enable it to make a decision about the optimum solution and to take forward the work to develop a Strategic Outline Business Case. In line with Treasury/Government guidelines (5 case model) the Project Board would like to understand:

- The strategic fit of the optimum solution to the Combined Authority's/Greater Cambridge Partnership wider ambitions.

- An assessment of economic costs and benefits and identification.

- Consideration of the commercial issues including reference to the technical requirements, risks, tendering, partnerships and legal framework.

- Financial benefits, costs and risks. It is important that the assessment details and quantifies the wider economic benefits that may be realised.

- Consideration of the timescales, project governance and project management issues.

6. Non-Technical Summary of Options Appraisal Report

6.1 A non-technical summary of the identified options must be provided in plain English and suitable for a non-technical audience. The options and any others that have been discounted, should be presented.

7. Project Management and Stakeholder Engagement

7.1 A Project Board will be established to manage the project and key stakeholders.

7.2 Allowance should be made for a series of meetings to inform senior officers and Members of progress with, and emerging thinking from the study.

7.3 Key stakeholders include:

- The Cambridgeshire and Peterborough Combined Authority

- Greater Cambridge partnership
- Member local authorities
- GCGPLEP

8. Response

8.1 The Consultant should set out their understanding of the brief and describe their proposal to meet the requirements.

8.2 A method statement should be provided detailing how the work will be undertaken, including the methodology and approach.

8.3 The approach to undertaking the strategic options assessment and modelling required should be clearly set out.

8.4 The approach to undertaking the options appraisal and the requirement to provide sufficient detail to support strategic outline business case development should be clearly set out giving details of how the wider economic benefits will be taken into account.

8.5 Details of the proposed project team should be provided, including CVs, rates, and evidence of previous similar work successfully undertaken.

8.6 A detailed list of deliverables must be provided in response to the brief, including any additional to those identified above that the Consultant considers necessary.

8.7 Any client inputs should be identified.

8.8 A target cost and programme for completing the work, broken down by key deliverables and milestones and showing deliverables and key dates must be provided.

8.9 The Combined Authority and Greater Cambridge Partnership Board would also like to understand the indicative costs and programme for taking forward the preferred option to Strategic Outline Business Case stage.

8.10 All reports, technical notes, and other output should be submitted to the Client in draft for review. Changes may be required as part of this review which should then be incorporated into a final report.

8.11 A statement detailing any conflict of interest or potential conflict of interest in carrying out this work must be provided.

8.12 Any areas of work that are planned to be sub-contracted must be detailed including how this will be undertaken. The Combined Authority and Greater Cambridge Partnership Board recognise that a Consortium approach may be required to provide the full range of skills and competencies required to deliver the brief – full details should be provided.

8.13 A risk register showing the key time and cost risks to the successful completion of this work must be provided.

8.14 Tenders will be evaluated on the following basis:

- Quality: 60% - based on written response to the brief

- Price: 40%

8.15 Shortlisted parties will be invited to an interview to present their proposal.

9. Project details

Contract management

9.1 The Strategic Options Appraisal will be commissioned jointly by The Combined Authority and the Greater Cambridge Partnership Board. The contract will be managed by the Chief Executive of the Combined Authority who has delegated authority to commission the study.

9.2 The Combined Authority and Greater Cambridge Partnership democratic decision-making process are critical to the success of this work. The work will need to inform committee reports and the consultants may need to present their work at committee.

9.3 Regular contact with the Combined Authority's and Greater Cambridge Partnership's lead contact will be required throughout the contract, which may take the form of telephone, face to face or email.

Contract terms

9.4 Prices should be for a contract covering the fixed fee for the agreed work for these services and inclusive of all other costs (e.g. subsistence, office stationery etc.)

10. Bids

10.1 Bids will be received by the <Name> by the <date> at 17.00. Three hard copies and an electronic copy either via email or on disc will be required. Bids should be addressed to:

Name

Address

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GREATER CAMBRIDGE PARTNERSHIP

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Report To:	Greater Cambridge Partnership Executive Board	26 July 2017
Lead Officer:	Chris Tunstall – Interim Transport Director	

Milton Road and Histon Road: Bus, Cycling and Walking Improvements Delivery Priorities, Local Liaison Process and Design Principles

Purpose

1. To:
   (a) Consider future delivery priorities and project timelines;
   (b) Review the outcomes from a Local Liaison Forum (LLF) workshop process for Milton Road; and
   (c) Determine a design layout to inform the preparation of a detailed design and outline business case for Milton Road.

Unless stated otherwise, all background papers and materials referenced in this report are available here: https://www.greatercambridge.org.uk/transport/transport-projects/milton-road/

Context

2. The Greater Cambridge Partnership is a unique opportunity to support economic growth of the Greater Cambridge region and to enhance quality of life for people in Cambridge and South Cambridgeshire. The Greater Cambridge Partnership aims to invest £1 billion in the infrastructure we need to connect new homes and jobs, so our city region can grow in a sustainable way, benefitting those who live, work, and study and visit it.

3. Milton Road and Histon Road projects support the priority of achieving efficient and reliable movement between key existing and future housing and employment sites and are being delivered as part of the Tranche 1 infrastructure programme. In particular, the projects will support the delivery of new housing at Northstowe, Waterbeach and on the northern fringe of Cambridge and will provide improved links with employment sites such as the Science Park and Cambridge North Station, benefitting residents, commuters and business

4. The projects aim to provide improved infrastructure for buses to improve service reliability and journey times and encourage greater patronage. They also aim to significantly enhance the quality and safety of cycling and walking facilities whilst also enhancing the quality of the streetscape and public realm areas and the environment.

5. In August 2016, an LLF for the Milton Road project was established. Following extensive debate and discussion, the LLF has set out a number of resolutions and following a series of workshops developed a design option referred to as ‘Do Optimum’.

6. The Milton Road LLF 'Do Optimum' proposal has provided a good basis for the development of the 'Final Concept' design. Officers will continue to work closely with the LLF to ensure that in the process of taking this concept to a fully detailed design, further aspects of the 'Do Optimum' will be carefully considered and incorporated where practical. As set out later in this report further workshops with the LLF are proposed to influence and inform the emerging detailed design with regard to bus stop location, pedestrian crossings, and trees / landscaping.

7. Subject to Board support for the concept set out in this report, over the coming months a detailed scheme design will be prepared along with an initial business case. The LLF should be fully engaged with this design process.

Recommendations

8. The Board is recommended to:

   (a) Note the prioritisation of delivery of the Milton Road project ahead of the Histon Road scheme;
   (b) Note the Milton Road Local Liaison Forum resolutions set out in Appendix B and agree the responses set out therein;
   (c) Agree the 'Final Concept' design shown in Appendix D as a basis for detailed design work and the preparation of an interim business case to facilitate further public and statutory consultation;
   (d) Note that wherever highway space permits, opportunities to adopt further aspects of the 'Do Optimum' design will be taken as part of the detailed design process;
   (e) Support further engagement with the Milton Road LLF to help inform the detailed design process;
   (f) Support discussions with relevant property owners to explore interest in a joint funding approach to potential streetscape and public realm improvements on land outside the public highway outside local shops along Milton Road; and
   (g) Note the revised project timelines shown in Appendix H and the next steps in project delivery set out in this report.

Reasons for recommendations

9. A general design layout for Milton Road needs to be determined to facilitate a detailed design process and creation of a business case leading to a further public and statutory consultation process in 2018. The recommended design layout will provide a balanced approach to the delivery of the key objectives of the scheme, already approved by the Executive Board and the extensive work undertaken by the LLF in relation to the Do Optimum proposal.

10. Continued engagement with the Milton Road LLF will help support the development of a detailed design and provide local input into scheme mitigation measures.

11. The public realm aspects of the Milton Road scheme could be enhanced by collaborative working with landowners to provide streetscape improvements outside local shops. As this would involve the use of land outside the highway boundary, this could be approached on a joint funding basis, subject to the agreement of relevant landowners.

Delivery Priorities

12. Milton Road and Histon Road are both high priority schemes for the Greater Cambridge Partnership's programme and a key proposal within the Local Transport Plan 2011-2026. To avoid creating undue pressure on the road network in Cambridge it was planned that the projects would be constructed consecutively rather than concurrently.

13. In strategic terms the Milton Road scheme has a stronger case for early delivery. Whilst the planned developments at Northstowe (up to 10,000 homes), Waterbeach (up to 10,500 homes) and Ely (2,000+ homes) all have the potential to increase bus service provision on both routes, Milton Road is expected to experience the greatest growth in bus patronage and to cater for more of the additional bus trips generated by these major development sites. The influence of Cambridge North station is also likely to be greater on Milton Road.

14. It is planned that a similar report on the delivery of the Histon Road project will be considered at the November 2017 Executive Board meeting.

Background

Milton Road project objectives

15. As approved by the Executive Board on 9th June, 2016, the Milton Road project has the following key objectives, (in no particular order):
    (a) Comprehensive priority for buses in both directions wherever practicable;
    (b) Additional capacity for sustainable trips to employment/education sites;
    (c) Increased bus patronage and new services;
    (d) Safer and more convenient routes for cycling and walking, segregated where practical and possible;
    (e) Maintain or reduce general traffic levels; and
    (f) Enhance the environment, streetscape and air quality.

Executive Board considerations

16. At its meeting on 9th June 2016, the Executive Board considered a report on consultation feedback and resolved to;
    - Take forward the initial ideas in the 'Do Something' option for further design work including the Union Lane closure and Elizabeth Way roundabout ideas and 'floating bus stops', where highway space permitted, but excluding the ideas for banned turns at the Gilbert Road, Arbury Road and King's Hedges Road junctions;
    - Support development of traffic management measures to mitigate displaced traffic and parking for the purposes of further consultation; and
    - Note the important role of the Local Liaison Forum in involving local Councillors and stakeholder groups in the development of the detailed layout plans for consultation.

    The Milton Road 'Do Something' concept plans are available in Appendix C of the Draft Options Report which is available here: https://www.greatercambridge.org.uk/download/1780/Milton_Road_Histon_Road_Draft_Options_Report_22.09.15.pdf?type=inline

Engagement

17. In August 2016 a Local Liaison Forum (LLF) for the Milton Road project was established, with terms of reference agreed covering its remit and operation, in line with guidance provided by the Executive Board. Following its formation, the LLF submitted some initial resolutions to the Executive Board concerning the need for external expertise in public ream design, the approach to tree planting and need to avoid bus lanes on both sides of the road. The full response to these resolutions issued by the Executive Board is shown in Appendix A. The guidance given by the Executive Board in its resolution response has been considered carefully as the part of ongoing engagement and design work.

18. Between September and December 2016 a series of workshops were undertaken with the aim of facilitating local feedback on the preferred 'Do Something' option and exploring alternative ways of delivering the scheme objectives. Stakeholder participation at the workshops was agreed with the LLF. In response to the Executive Board's request, Kieron Perkins from spatial design agency, 5th Studio, was appointed to provide independent advice on streetscape design and public realm at the workshops.

19. Initially, the agenda for the workshops was targeted at assessing the pros and cons of the 'Do Something' option, considering key aspects that stakeholders wished to challenge and reflecting on the need for mitigation measures. As the process unfolded the workshops determined that more time should be spent on developing an alternative design which the LLF has called 'Do Optimum'.

20. The presentations given at the workshops and the workshop summary reports, along with the minutes of the LLF meetings and details of the 'Do Optimum' alternative proposal are available as background material.

LLF Resolutions

21. Having reflected on the outcomes from the various workshops, the LLF has prepared 12 resolutions many of which relate directly to the 'Do Optimum' alternative design, whilst others focus on measures to tackle congestion and delays in Cambridge. The resolutions are set out in full in Appendix B along with officer comments.
22. In assessing the resolutions to determine how these could be taken forward in future design work, officers have worked on an assumption that the resolutions should be adopted unless they conflict with or compromise significantly individual project objectives, established design guidance and standards or road safety needs.

Assessment of the 'Do Optimum' Design

23. Camcycle and local residents' associations put considerable and very good consideration into preparing the 'Do Optimum' conceptual scheme design that the LLF has endorsed. Officers have assessed this design against the original project objectives. The 'Do Optimum' concept provides high quality infrastructure for pedestrians and cyclists and allows for major enhancement to the urban realm and the environment along Milton Road. However, the 'Do Optimum' design does impact on the capacity for vehicular movement on Milton Road and on the ability to achieve significant bus priority measures. Officers have looked into how the design might be accommodated within existing highway boundaries as well as considering any engineering issues that would emerge if the design were taken forward for more detailed consideration.

Traffic modelling

24. To support the assessment of the 'Do Optimum' design and, in particular, the effects on traffic flows in peak periods, microsimulation traffic modelling has been undertaken using industry standard software (Paramics) to assess and compare the 'Do Optimum' against a 'Do Nothing' scenario. The key outputs from the modelling which is based on assumed 2031 traffic flows include bus and non-bus journey times and the expected peak hour queue lengths along the whole length of the proposed scheme. The results focus on the AM peak (8am-9am) and PM peak (5pm-6pm). The variations in bus journey times have been assessed to also provide an indication of how bus journey reliability would be affected within each scenario. Appendix C provides further details on the officer assessment and a summary of the modelling results.

Modelling results and conclusions (2031)

25. Compared with a 'Do Nothing' scenario, in the AM peak modelling of the 'Do Optimum' proposal shows a tripling of the current average vehicular journey times into Cambridge. Outbound journeys would more than double. In the PM peak inbound and outbound trips are both expected to increase significantly.

26. In 2031, bus reliability in the 'Do Optimum' scenario is worse in both directions in each peak when compared to the 'Do Nothing' scenario. Average journey times are also significantly longer.

27. In conclusion, whilst the 'Do Optimum' solution contains many concepts that should be taken forward in the final design, the modelling assessment demonstrates that this design concept, if taken forward without modification to junction design and bus lane length, would disadvantage vehiclar movement and more significantly, result in a further deterioration of bus journey times and reliability.

Development of a 'Final Concept' design

28. In considering how best to develop the 'Do Optimum' design into one which could meet all of the key objectives of this scheme, alternative junction designs have been assessed with a view to balancing vehicle journey times along Milton Road whilst maintaining as many as possible of the 'Do Optimum' ideas for pedestrians, cyclists and landscaping. The length and position of bus lanes has also been optimised to enable the required element of bus priority whilst also maximising the opportunities for landscaping and tree planting.

29. In order to undertake a full assessment of the proposed modifications to junctions and bus lanes, Paramics and other individual junction modelling has been used to provide a direct comparison with the 'Do Nothing' and 'Do Optimum' scenarios. Further LLF meetings were held in May and June 2017 to seek feedback on the emerging modelling results and to test the initial ideas. The presentations given at these meetings and the minutes are available here: https://www.greatercambridge.org.uk/transport/transport-projects/milton-road/milton-road-llf/

This further work and engagement has led to a 'Final Concept' design that better meets project objectives whilst also incorporating many of the positive elements of the 'Do Optimum' design and taking into account the concerns and ideas from local residents.

Final Design Concept

30. The plans in Appendix D compare, section by section, the 'Do Optimum' design with the 'Final Concept' design. It is recommended that the 'Final Concept' design should form the basis of future detailed design work and the preparation of an interim business case to facilitate further public and statutory consultation. **However, it needs to be highlighted that these plans only show a concept and it is emphasised that once detailed design work is undertaken it may be possible to accommodate more aspects of the 'Do Optimum' design, particularly for segregated cycling facilities at key junctions.** The LLF will be closely involved in this work to ensure that every opportunity to retain more 'Do Optimum' design details is fully considered.

31. Appendix C provides a comparison of the journey times, queueing and bus reliability for the 'Do Nothing', 'Do Optimum' and the 'Final Concept' design. The 'Final Concept' provides only 190 metres of additional bus lane to current levels as shown in Appendix F. However, these sections of bus lane are allocated more evenly between inbound and outbound bus travel in comparison to the 'Do Nothing' scenario which focuses bus lanes on inbound bus travel. The 2031 'Final Concept' bus reliability results show improved bus reliability for both directions of travel, improving average bus journey times inbound (even with a reduction of bus lanes on this side of the road in comparison to 'Do Nothing') and significantly improving outbound average bus journey times in comparison to 'Do Nothing' through increasing bus lanes on this side of the road. Further bus priority measures at traffic signals have not yet been applied in the 'Final Concept' scenario which has the ability to further reduce bus journey times but may lengthen non-bus journey times. To give an impression of how the final design would fit, images based on generic cross sections are provided in Appendix E along with before and after visualisations at various points along the route

<u>Bus Design Aspects</u>

32. The 'Final Concept' design provides the improved provision for buses where it is most needed. This will effectively improve both inbound and outbound journey times and reliability. There could also be scope to derive further benefits through the use of strategically placed bus gates, and bus hurry calls at the junctions. These options will be investigated further at the detailed design stage.

33. Whilst bus priority is a key scheme objective, the Board has acknowledged the need to ensure the length of bus lanes is balanced with other project objectives by seeking to avoid bus lanes on both sides of the carriageway at any point along the route.

34. The exact length of bus lanes required on each section will be influenced by how effectively the key junctions are designed to reduce the delays which generate the queues and slow moving traffic. **The 'Final Concept' design therefore shows the maximum length of bus lane that may be required to effectively achieve bus priority. The length of these bus lanes will be considered further in the detailed design with a view to reducing them where possible.** The queue lengths indicated by the modelling work will help to inform decisions on the lengths of bus lane required but the delays to bus movements arising from slow moving traffic conditions where stationary queues don't necessarily form also need to be allowed for to optimise bus journey times.

Cycling and Pedestrian Design Aspects

35. The 'Final Concept' design advocates using planting areas to separate the carriageway and cycleway and it is recommended that this design approach be adopted where space permits, subject to a minimum segregated cycleway width of 2 metres to allow for overtaking. Where width considerations would not allow for a 2 metre wide cycle lane, the cycle lane has been relocated adjacent to bus lanes to create more opportunity for those cyclists travelling at speed to overtake using a bus lane rather than choosing to use the pedestrian footway.

36. The design includes segregated crossing points at major junctions with the ability for both cyclists and pedestrians to cross in a single movement avoiding the need to cross via traffic islands in two stages. This approach provides better segregation of cycling and traffic movements at junctions and a more user friendly design and should be adopted wherever possible.

37. Local residents have expressed strong support for coherent two way cycling provision to be provided on the north-west (outbound) side of Milton Road between Ascham Road and Ramsden Square. This has been incorporated into the 'Final Concept' design but in some areas will compromise the width of verge that can be accommodated.

38. The 'Final Concept' design promotes the use of Copenhagen style crossings at side roads which give priority to pedestrians and cyclists over vehicles entering and exiting these roads. This design idea is taken directly from the 'Do Optimum' concept.

Gilbert Road junction

39. The 'Final Concept' design proposes to maintain something similar to the existing junction layout and that the signal staging should include a main road and side road vehicle stage along with an all-round pedestrian phase. In considering layout changes the need to avoid delays arising from motor vehicles turning right into the side road without compromising inbound cycle movements on the main road has been taken in to account.

40. There are concerns that there is insufficient space available for fully segregated cycle movements at this junction therefore provision for cyclists has been made by providing advanced stop lines. Further detailed design work needs to be undertaken to assess whether or not it is possible to achieve something nearer the level of segregation that is proposed in the 'Do Optimum' concept for this junction.

Elizabeth Way junction

41. The 'Do Optimum' design promotes the use of a Dutch style roundabout at this junction. While officers agree that this would provide enhanced facilities for pedestrians and cyclists, the modelling of this approach suggests that the single lane roundabout design would severely compromise vehicular capacity and would also have an adverse impact on achieving bus priority. The approach that consultants WSP-Parsons Brinckerhoff have taken to modelling the Dutch Style roundabout has been peer reviewed by consultants, Royal Haskoning DHV, who have specific expertise in this field. Royal Haskoning DHV has confirmed that the modelling outcomes are broadly in line with their expectations. The review report is available as a background document: https://citydeal-live.storage.googleapis.com/upload/www.greatercambridge.org.uk/transport/Milton Road/Documents/Milton%20Road%20background.pdf

42. The modelling work shows that replacing the existing roundabout with a signalised junction design would enable more effective traffic management and would provide greater opportunity to prioritise bus movements and allow coordination with the Arbury Road junction through linked signal timings to optimise the progression of buses; this could be achieved by creating a signalised two lane roundabout or through a signalised 'T' junction or crossroads. As set out in Appendix C, each of these design options has relative strengthens and weaknesses. Whilst it would be feasible to take forward both design options for further detailed consideration, further engagement with the LLF has made it clear that there is much greater local support for the retention of a roundabout at this location.

43. Therefore, the 'Final Concept' design provides a conceptual design for a two lane signalised roundabout with fully segregated pedestrian and cycling facilities. The roundabout would retain two lanes in order to maintain capacity for vehicular movements. There is the need for further detailed design work to inform the final concept and it is proposed that Royal Haskoning DHV be commissioned to support this.

Arbury Road junction

44. In response to feedback from the LLF on previous design iterations which included restrictions on motor vehicles accessing or egressing Union Lane to reduce main road delays, the 'Final Concept' design for this junction proposes to maintain the existing junction signal operation of the junction with further consideration to be given to the segregation of cycling movements as part of detailed design work. This will include an all-round crossing stage for pedestrians and cyclist across all arms of the junction.

45. There may also be the opportunity to enhance traffic flows along Milton Road by limiting the Union Lane stage to every other sequence. This will be tested in the detailed design stage.

King's Hedges Road junction

46. The 'Final Concept' design aims to incorporate all of the aspirations of the 'Do Optimum' design option for a signalised cross road. Cyclists are fully segregated from the traffic, and the cycle / pedestrian crossing facilities are continuous. It is considered that this solution provides the best balance in terms of allowing effective traffic management while also providing enhanced infrastructure for pedestrians and cyclists.

Landscaping Design Aspects

47. The delivery of the scheme will result in damage to existing trees and their root systems. Therefore, it is proposed that the current trees are replaced with a fully considered and developed tree planting design along the length of Milton Road taking into account relevant design guidance, in particular that developed by the Tree Design Advisory Group (TDAG) http://www.tdag.org.uk/about-tdag.html the key aspects of which are also set out in Appendix G. Initial officer landscaping advice suggests the planting of trees with a girth no larger than 16-18cm which in size equates to 3-5m high. At that size the tree planting will have a 'presence' along the road and will have a better chance of becoming successfully established. Improved planting technology with purpose built tree pits will support this. Whilst the final concept design indicates areas of verge, some narrow areas may be hard landscaped where their width is less than 1 metre, in line with TDAG guidance.

Additional Streetscape

48. In line with LLF resolutions, it is recommended that consideration should be given to streetscape improvements outside local shops. As this would involve the use of land outside the highway boundary, this could be approached on a joint funding basis, subject to the agreement of relevant landowners.

49. As part of the detailed design work it is also recommended that consideration is given to the introduction of rain gardens in verge areas to help manage surface water run off as an element of sustainable drainage.

Project Mitigation

50. The need for parking mitigation measures has been considered at the design workshops and concerns have been raised through the LLF resolutions over the impact on residents parking and the lack of visitor parking resulting from commuter parking. The need for measures to address through traffic movements on some side roads was also raised but a clear idea of the scope and type of measure that might be required has yet to be established. Further work will be required on this and the LLF and residents will be closely involved. Further surveys are planned to assess the amount of through traffic currently using side roads along the route.

Next Steps

Design and Business Case

51. Subject to Board support, a detailed scheme design will be prepared over the coming months along with an initial business case. A 'drive through' visualisation of the detailed design will also be developed to give an impression of how the design would look at street level. The design work will also focus on developing public realm design aspects. Kieron Perkins will be invited to work alongside designers from the project design consultants, WSP/Parsons Brinckerhoff, and officers from the City Council's Streets and Open Space Team. It is envisaged that the detailed design will be available for final Board approval in early 2018.

Mitigation Measures

52. Consideration would be given to traffic management measures to address local concerns over through traffic movements on routes directly adjacent to the scheme that have a history of 'rat running', namely Ascham Road/Gurney Way, Ramsden Square and Lovell Road. A package of mitigation measures will be developed for consideration by the Executive Board when it also considers approving a detailed design for public and statutory consultation.

53. Greater Cambridge partnership is providing funding to allow further residents' parking schemes to be delivered across Cambridge and the area surrounding the lower section of Milton Road (the city centre side of Arbury Road and Union Lane) has been identified for early consideration. The measures that emerge from this process will include accommodating the parking needs of Milton Road residents who do not have off-street parking or garaging which would be displaced from Milton Road. The streets bordering Milton Road to the north would be considered later in the roll-out of residents' parking schemes but the intention is that alternative parking provision for any residents' parking displaced by the Milton Road project would be in place prior to the commencement of construction work.

54. Consultations on residents parking are expected to commence later this year and a survey of Milton Road residents parking needs will be undertaken prior to this, as advocated by the LLF.

Engagement

55. The LLF and the local community will be closely involved in the fine detail of the design through further workshops and forum meetings. The project team will continue to engage with the LLF on detailed design matters to take on board local feedback to build support for the emerging design. As well as referring significant matters to the full LLF, a smaller working group of representatives from the LLF to work alongside the project team would be useful to facilitate day to day discussions on local design aspects to keep things moving forward, expeditiously. Discussions would cover such matters as construction materials, tree planting, sustainable drainage measures, street furniture and the emerging ideas for streetscape and public realm improvements. The LLF would also be asked to support the development of residents' parking measures in the side roads adjacent to Milton Road.

Procurement

56. The Board has previously supported the delivery of the project through the Eastern Highways Alliance Framework based on a design and build contract. Towards the end of 2017 the process of appointing a contractor to develop the detailed layout plan into a full engineering design will begin.

Programme

57. Based on the recommendations set out in this report, a revised project timeline has been prepared which is shown in Appendix H. Particular attention is drawn to the assumptions set out in the timeline which have the potential to impact on the delivery timetable. The timeline will be developed in more detail as clarity over the detailed design emerges.

58. Subject to the completion of detailed design work and the further associated traffic modelling, to underpin the scheme design, and an initial business case to demonstrate the benefits for the project, it is proposed to include the statutory consultation on draft traffic regulation orders as part of the next public consultation, thereby shortening the delivery timetable.

Officer Delegation

59. The Board resolutions passed on **9th June 2016** included giving delegated powers to the Executive Director (ETE) to approve a scheme design for the purposes of consultation. Given the change in the programme set out above, it is no longer necessary to exercise this delegation and the detailed design that emerges from the work over the autumn/winter period will be considered and agreed by the Board, prior to any decision on further public and statutory consultation.

Implications

60. 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

61. The scheme development and implementation is funded from the GCP funding.

Legal

62. No significant legal implications have been identified at this stage although they may emerge as the project moves towards the statutory process stage.

Staffing

63. Project management is undertaken by Cambridgeshire County Council. Design work would be undertaken by consultants WSP-Parsons Brinckerhoff. All schemes are worked up in collaboration with the District Councils.

Risk Management

64. A full project risk register forms part of the Project Plan.

Equality and Diversity

65. There are no equality or diversity implications in this report.

Climate Change and Environmental

66. The proposed measures have the potential to reduce congestion and improve air quality in the longer term through encouraging a shift towards sustainable transport modes.

Community Safety

67. The measures being developed on Milton Road will help reduce road casualties and improve road safety.

Consultation responses and Communication

68. This report sets out a plan for further formal public and statutory consultation. The Local Liaison Forum and further informal stakeholder meetings, ahead of further formal consultation, will also help facilitate engagement on the project.

Background Papers

As set out in the report.

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Appendix A

EXECUTIVE BOARD LLF RESOLUTIONS RESPONSE - 14th September 2016

Councillor Jocelynne Scutt
Chair- Milton Road Local Liaison Forum
Councillor Roger Hickford
Chair, Greater Cambridge City Deal Joint Assembly
cc Greater Cambridge City Deal Joint Assembly

Dear Roger and Jocelynne

PROPOSALS FOR MILTON ROAD

I am writing on behalf of the City Deal Board, as I committed to do within a fortnight of our meeting on Thursday 1st September, to address three key inter-linked issues on the City Deal proposals for Milton Road and respond to the Milton Road Local Liaison Forum (LLF), petitioners and the City Deal Assembly.

We welcome the input from residents, the work begun by the Milton Road LLF and the consideration given by the Assembly. The LLF discussions and the forthcoming workshops will make a crucial contribution in influencing the shape of the final scheme design on the Milton Road proposals.

On the first issue raised, independent external consultants with expertise in public realm, landscaping, trees and verges will be appointed as part of the Milton Road project, and will attend the Milton Road LLF and workshops. We will confirm the detailed arrangements with the Chair of the LLF, and ensure that their advice enables different design and public realm options to be considered including proposals from the LLF.

The Board, like the City Deal Assembly, is committed to a successful future design for Milton Road that achieves and integrates the following three core objectives in the final design for Milton Road

- increased bus reliability and improved journeys, leading to new services, increased frequency and reduced congestion

- high-quality cycling infrastructure and pedestrian provision

- high-quality design and public realm linked to wider measures to cut peak-time congestion, and other elements of the City Deal transport strategy.

Therefore, on the second and third issues raised on the Milton Road proposals

a we want to be clear as a Board that we support an avenue of mature trees as a core design element along Milton Road, and also the provision of grass verges and planting, and effective wider public realm and landscaping

b we also state that the Board's preference will be for a design, as was said by Board members at its earlier June meeting, that avoids the need for double bus lanes on any stretch of the road including the section from Hurst Park Avenue to Oak Tree Avenue, so that this stretch would have a maximum of three motorised lanes.

On the detail of both, as on other aspects of the proposed Milton Road design and future journey projections, we ask the LLF to give these issues and tree choice careful consideration, and look forward to seeing your recommendations in your final report, consistent with achieving the three core objectives of the scheme.

We also ask the LLF to consider tree provision for sections of the road, such as the southern end from Mitcham's Corner to Highworth Avenue, where provision is currently low and can be improved.

We look forward to seeing the LLF final report and conclusions later. Board members will also want to meet the chair and vice chair of the Milton Road LLF, as we will for Histon Road and for all LLFs, to discuss their final reports. The Board and Assembly will then consider the LLF recommendations and wider analysis before reaching conclusions.

Yours sincerely

Councillor Lewis Herbert Chair – Greater Cambridge City Deal Executive Board

Appendix B
MILTON ROAD LLF RESOLUTIONS AND OFFICER RESPONSES

LLF Resolution	Officer Commentary
Alternative proposal The Milton Road LLF has considered the alternative proposal for the layout of Milton Road developed by local residents' associations together with Camcycle known as the 'Do-Optimum' design, details of which are provided separately. The design incorporates feedback received during the workshops on cross-sections, allocation of space, major junction layouts and landscaping. It offers a great opportunity for Cambridge to pioneer a welcoming, best-in-class, tree-lined gateway into the city that will transform the way people choose to travel, because it will provide a safe and calming environment for all modes of use. From the evidence of the workshops it is very likely to attract majority support from local stakeholders, and the LLF believes that it meets the objectives of the City Deal Board to a greater degree than the 'Do-Something' proposals. **R1. Accordingly, the Milton Road LLF requests the Board to direct officers to develop the Do-Optimum proposal, which is consistent with the Board's remit.**	When assessed against the project objectives, the 'Do Optimum' proposal achieves a significant improvement in the quality of the streetscape and meets the objectives set for improving walking and cycling trips. However, it provides limited measures to improve bus journeys, which is a key scheme objective. Traffic modelling has shown that some of the junction layouts included as part of the 'Do Optimum' proposal will significantly increase delays for buses rather than reduce them. Therefore, changes need to be made to the concept to better respond to the key objective of improving bus journey times and reliability. **Recommended response: note the resolution and confirm that future design work will use the 'Do Optimum' as a base but with modifications to better address the needs of bus trips**
Union Lane/Milton Road The proposal to close Union Lane was rejected on at least two previous occasions before the large-scale redevelopments of the former Chesterton Hospital and Pye factory sites were completed. Union Lane gives access to and from schools and shops in Chesterton and Arbury/Kings Hedges. The alternative route is via the roundabout at the junction of Chesterton High Street and Elizabeth Way which already operated at 167% of design	The longer the delays on the approach to the Arbury Road/Union Lane junction, the longer the bus lanes need to be to allow buses to bypass traffic queues. Rationalising the layout of the junction to reduce main road delays will allow the lengths of approaching bus lanes to be reduced, thereby providing more room for other elements of the highway cross section such as verges and tree planning areas. Whilst closing the Union Lane arm of the junction to motorised traffic would provide an improved layout for cycle movements as well as additional space for landscaping improvements the impact on local accessibility is recognised.

capacity when last measured some time before the year 2000. The Milton Road LLF considers that the proposed closure of Union Lane will make that situation even worse and put unacceptable traffic pressure on to Green End Road and the High Street within and through East Chesterton as well as some secondary routes, and is likely to result in an increase in journey time for bus passengers on routes within East Chesterton. Union Lane is also used as an important link into the community health/out-of-hours services at Chesterton Medical Centre. **R2. The Milton Road LLF therefore requests the Board to reject the closure of Union Lane junction as proposed and to direct officers to investigate alternative ideas for the junction, and to consider mitigation measures such as double yellow lines on the South-West side of Union Lane from the junction down to Pearl Close.**	Inevitably, allocating more road space and capacity to sustainable transport modes, such as closing off access to Union Lane, will result in longer journey times for car based trips using other parts of the road network but this has to be set against the benefits the Milton Road scheme will provide. If no changes are made at the junction, delays will continue to grow which may also lead to more traffic using roads through East Chesterton as an alternative route. Rationalising the operation of the junction signals to provide more green time for the main road is considered an important part of the scheme design. However, it is recognised that the potential to displace traffic on to other roads through a close of the Union Lane arm is of local concern, as is the impact on overall accessibility of the East Chesterton area by motor vehicle. Officers have considered two further options that keep open the Union Lane arm: A) With the left turn from Union Lane prohibited for motor vehicles B) Running the Union Lane signal stage only every other cycle However, whilst these also help manage main road delays they have detrimental impacts on local accessibility and environmental conditions through displaced traffic and longer queuing in Union Lane. **Recommended response: note the resolution and proceed with a detailed design on the basis of retaining the current signal operation but with layout changes to enhance cycling and pedestrian movements and incorporating the ideas for double yellow lines.**
Elizabeth Way/Highworth Roundabout The workshops revealed a strong consensus for retention of a roundabout at this junction but redesigned with additional safety features. There was also agreement that any congestion that sometimes occurs is due to the traffic lights at the Arbury Road junction and the poor location of bus-stops in that area.	The 'Dutch' style roundabout design included within the 'Do Optimum' proposal would deliver improved conditions and safety for walking and cycling. However, a roundabout layout would perpetuate the current problem whereby the heavy outbound Elizabeth Way traffic flow has priority over outbound Milton Road traffic in the evening peak period which is to the detriment of outbound bus movements on Milton Road. Traffic modelling suggests that traffic delays would increase very significantly,

R3. The Milton Road LLF calls on the Board to take forward a roundabout design based on that in the 'Do-Optimum' scheme, which also includes vehicular access to Highworth Avenue.	consequently reducing bus journey times and reliability. Modelling suggests that signalisation of the junction would facilitate priority for buses and allow better co-ordination with the Arbury Road junction as well as improving road safety. **Recommended response: note the resolution and proceed with a detailed design exercise based on the concept of a signalised roundabout with segregated pedestrian and cycle facilities with access/egress for Highworth Avenue retained.**
Two-Way Cycling Lanes The Milton Road LLF considers that the density of cycle traffic, particularly involving school children at peak times, requires that two-way cycle lanes should be established. **R4. The LLF requests the Board to require that any plans carried forward for Milton Road should incorporate two-way cycling safety features at the following locations:** • **between Ascham Road and the Kings Hedges Road junction on the N-West side where the majority of schools, pubs, shops, library and community hubs are located;** • **between Herbert Street and the Ascham Road toucan crossing on the S-East side or, alternatively, by providing a two-way crossing between Herbert Street and George Street.**	The key design challenge for the scheme has been trying to accommodate all the desired elements of the road cross section within the space available between highway boundaries. In some sections such as between Gilbert Road and Ascham Road, the highway width does not provide sufficient room to accommodate a two way cycling facility on the north west side and all the other elements necessary to deliver the scheme objectives. However, on other sections it may be possible to cater for bi-directional cycle movements on one side. Wherever possible pedestrians would be segregated from other transport modes but in some sections where highway width is more limited, compromises would need to be made and some sections of shared use cycle/footway may be a more viable solution to cater for two way cycle movements on one side of the road. The desire to cater for two way cycling movements on the north west side to avoid young and less confident cyclists from needing to cross the road, particularly for school related trips, is understandable. The scheme design could seek to provide for this where road space permits. **Recommended response: note the resolution and the desire to cater for two-way cycle movements on the north west side and support the development of a design that caters for bi-directional cycling on one side where space permits**

Walking and Cycling Safety There was strong consensus in the workshops on the need for improved walking and cycling safety along Milton Road. **R5. The LLF urges the Board to instruct officers to implement segregation of pedestrians and cyclists from motor traffic by trees and grass verges on both sides of the road in any new design, consistent with the Board's letter of 14th September 2016.**	The Executive Board has previously indicated its expectation that the scheme design would include bus lanes to achieve priority for bus movements but that the design should avoid bus lanes on both sides at any point. Once space is allocated for a bus lane where required there is not sufficient room available within the highway to accommodate tree planting on both sides of the road on all sections of Milton Road. Segregating cycling movements from the carriageway by using trees and verges would create a more pleasant environment for cyclists but from a safety perspective this could be a double edged sword. Conflict with passing traffic would obviously be reduced although a combination of higher cycling speeds on high quality segregated cycle lanes with a landscaping buffer adjacent to the traffic lane might create greater risk of conflict with drivers turning into private drives as cyclists may be less conspicuous. This aspect would need to be considered carefully through the safety audit process but, on balance, this design approach should be taken on board where highway space permits. Where a cycleway is bounded by a footway and a landscaped area a minimum cycleway width of 2metres is recommended to cater for overtaking and avoiding the risk of faster cyclists abandoning the cycleway in favour of bus or traffic lanes. **Recommended response: support the resolution subject to a minimum segregated cycleway width of 2 metres**
Priorities at Minor Road Junctions **R6. The Milton Road LLF considers that walking and cycling would be enhanced if footpaths and cycle lanes were to have priority over vehicle traffic at all minor road junctions not controlled by traffic lights, and the LLF requests the Board to require that any plans carried forward for Milton Road should**	The scheme design should seek to redesign all minor side road junctions to provide as much priority for walking and cycling movements as possible and to enhance their safety. The suggested 'Copenhagen' style design would be a good starting point upon which to base future design work. **Recommended response: support the resolution for the purposes of future design work**

incorporate safety features at minor junctions such as Copenhagen crossings, and that this should also incorporate intermediate level changes as an aid to persons with a visual impairment.	
Parking outside the shops near Arbury Road The Milton Road LLF believes that the prosperity of the shops on Milton Road near the Arbury Road junction depends on the retention of the short-term parking close to their premises. **R7. The LLF requests the Board to ensure that cycle and short-term car parking is properly catered for adjacent to the shopping areas of Milton Road near the Arbury Road junction and enter into negotiations with shop owners with a view to improving the quality of the streetscape.** **R7a. The LLF requests the Board to ensure that cycle and short-term car parking is properly catered for adjacent to the shopping areas of Milton Road in the vicinity of Mitcham's Corner and to enter into negotiations with shop owners with a view to improving the quality of the streetscape.**	Given the space constraints on the section approaching Mitcham's Corner, there is limited scope for any significant streetscape improvements outside the parade of shops but the Board may wish to include the private forecourt areas in front of the shops within the scope of the scheme. The forecourt area outside the shops on the Arbury Road approach offers a significant opportunity for enhancing the quality of the streetscape and public realm. However, it lies outside the highway boundary and the Executive Board would need to take a view on whether it is prepared to invest funds in improving land in private ownership, albeit an area the public have always had access to. If it were possible to relocate parking for the shops to within the private forecourt area, as part of a streetscape improvement, this would free up highway space for landscaping, the servicing of shops and cycling and pedestrian needs. Provided there was an interest from the land owners, it would be worthwhile considering a joint funding approach to allow the whole area to be improved and integrated into the scheme design, thereby providing an 'added value' aspect. **Recommended response: support the resolutions for the purposes of future design work**
Parking on Milton Road The Milton Road LLF believes that the presence of free parking on Milton Road encourages non-essential motor traffic to enter the area which exacerbates congestion and air pollution. The vast majority of residential properties along the road already have access to off-road parking spaces. The few that do not should be catered for by provision of a limited number of spaces and/or vehicular	Removing parking along Milton Road would create more opportunities to balance the conflicting needs for highway space. Alternative spaces would need to be provided to cater for any residential properties without off-street parking. The favoured location to provide alternative spaces would be in neighbouring side roads as providing residents' parking spaces on the main road would conflict with the continuity of other design elements given highway space constraints. This could be linked with measures to prioritise parking in side roads for local needs and

access for trades vehicles (e.g. Nos.168-172) **R8. The LLF requests the Board to instruct officers to carry out an audit of residential properties without off-road parking spaces and make suitable provision for them.**	to prohibit long stay and commuter parking. Whilst parking surveys along Milton Road and in the side roads have already been undertaken, direct contact with all Milton Road frontagers to determine those properties without off-street parking and/or a reliance on on-road parking would be a useful step. The design process will also consider the scope for providing 'servicing' areas along the route to cater for deliveries but on some sections this will be difficult without compromising the continuity of other design elements. **Recommended response: support the resolution**
Bus Stops The Milton Road LLF considers that bus stops should be sited between trees, becoming in effect floating bus stops but without the disadvantages of the Hills Road variety, and that they should not be clad with illuminated advertisements which are a major source of irritation to residents. The safety of pedestrians, particularly children and those with disabilities, is of the utmost importance, so step-free boarding should be incorporated. **R9. The Milton Road LLF requests the Board to direct officers to observe the design principles set out in the preamble to this resolution when siting bus stops on Milton Road and to provide the following at or near every bus-stop** **a) a zebra crossing across the adjacent cycle path; and** **b) a toucan crossing across Milton Road**	Providing laybys at bus stops would impact significantly on the continuity of other design elements, particularly those for cycling, given the highway width constraints. Therefore, the scheme design would focus on kerb side bus stops taking into account the layout design advocated in the 'Do Optimum' proposal where practical and possible. The idea of providing a toucan crossing at each bus stop location would add significantly to scheme costs and would be difficult to justify at some stops based on likely use. However, current crossing and bus stop locations will be reviewed to ensure that controlled facilities are available within a reasonable walking distance to cater for crossing movements associated with bus stops. **Recommended response: note the resolution and confirm that the layout design advocated in the 'Do Optimum' proposal would be taken into account where practical and possible**
Other Design Requirements The workshops revealed considerable dissatisfaction with the current layout, safety and operation of the Golden	A 'Dutch' style roundabout layout would increase delays significantly and do nothing to improve bus journey times and reliability. However, the 'Do Optimum' signal design should be given further consideration during the detailed design work

Hind junction. There were also concerns about the current location of bus-stops, the lack of crossings along Milton Road, drainage and the needs of children and persons with a physical or visual disability. **R10. The LLF urges the Board to consider new design options for the Golden Hind junction using protected crossings for both pedestrians and cyclists based on a continental-style roundabout or signalised crossing (see 'Do-Optimum' designs) and to consider locating a toucan crossing close to the Fraser Road junction.**	to achieve the best segregation of cycling and pedestrian movements at the junction. Crossing movements between Fraser Road and Woodhead Drive are catered for by a traffic island but the need to provide a controlled crossing is recognised. Future design work would include a review of crossing facilities on the section between Downham's Lane and Kendall Way with a view to providing more controlled crossing facilities in the most useful locations. The scheme design will respond to the needs of those with mobility impairment and other disabilities, in accordance with current design guidance and standards. Highway drainage can be enhanced by incorporating sustainable drainage features such as rain gardens within landscaping areas. **Recommended response: support the resolution and confirm that:** **I. future design work at the Golden Hind junction would retain signal control but incorporating the ideas for crossing points contained in the 'Do Optimum' design** **II. consideration would be given to the provision of a toucan crossing close to Fraser Road**
Traffic Reduction Measures The Milton Road LLF believes that a major reduction in traffic density would be achieved if city-wide controlled parking schemes were introduced (ideally without imposing a financial set-up charge on householders). This would eliminate non-essential commuter parking and associated traffic and is likely in itself to negate the need for other measures to speed up bus journeys. **R11. The Milton Road LLF urges the Board to use its influence with the County Council to** **a) remove the charges at Milton Park and Ride site and**	The County Council is considering the future of the parking charge at Park & Ride sites. The GCP's 8-point plan being developed to tackle congestion in Cambridge includes proposals to tackle commuter parking. If the Milton Road scheme design requires the removal of on-street parking then alternative parking spaces will need to be provided for main road residents without off-street parking, potentially in neighbouring side roads. As part of this work the opportunity could be taken to develop wider parking controls in the neighbouring areas to remove commuter parking and introduce further residents parking schemes as envisaged in the GCP's 8-point plan.

b) work together with Milton Road residents and residents of the Milton Road neighbourhood to tackle problems arising out of commuter parking in residential streets in this area and **c) further to b), where necessary and with agreement of residents, through the introduction of residents' parking schemes and** **d) take this resolution into account in respect of all Park and Ride sites and problems of commuter parking throughout Cambridge.**	**Recommended response:** **a) note the resolution and bring to the attention of the County Council** **b) support the resolution** **c) support the resolution** **d) note the resolution and consider in the context of the City Access study**
Alternative Traffic Routes Ideas developed during the workshops included re-routing of traffic flows around the inner ring road to avoid clogging the inner radial routes – possibly creating a one-way system. 7 **R12. The Milton Road LLF requests the City Centre Access and Congestion Team to consider the ideas developed during the workshops, including re-routing of traffic flows around the inner ring road to avoid clogging the inner radial routes - possibly creating a one-way system as part of their work in tackling congestion.**	The GCP's 8-point plan for tackling congestion in Cambridge includes various measures to tackle delays including traffic management measures to deter through traffic movements on the inner ring road (East Road-Gonville Place-Lensfield Road) whilst maintaining local accessibility and improving bus accessibility. Creating a one-way system does not form part of the plan. One-way systems have the potential to improve traffic flow which can generate rather than discourage car based trips. They also tend to increase total motor vehicle network mileage and also increase vehicle speeds as well as acting as a barrier to two-way cycle and bus movements unless contraflow measures can be provided. **Recommended response: note the resolution and draw to the attention of the City Access Team the idea for a one-way system**

Appendix C

MODELLING RESULTS, 'DO NOTHING', 'DO OPTIMUM', 'FINAL CONCEPT' 2016 & 2031

Camcycle and local residents' associations have put considerable effort into preparing the 'Do Optimum' alternative scheme design that the LLF has endorsed. When compared against the project objectives, it has various strengthens and weaknesses. Officers have assessed how well the design compares with a 'Do Nothing' scenario based on current 2016 and predicted 2031 traffic flows. Based on the results on this analysis officers have looked into how the design might be accommodated within existing highway boundaries as well as considering any engineering issues that would emerge if the design was taken forward for more detailed consideration.

In considering how best to develop the 'Do Optimum' design into one which could meet all of the key objectives of this scheme, alternative junction designs have been assessed with a view to balancing vehicle journey times along Milton Road whilst maintaining as many as possible of the 'Do Optimum' ideas for pedestrians, cyclists and landscaping. Inclusion and optimisation of bus lanes has also been considered within the analysis to enable a required element of bus priority whilst also maximising the opportunities for landscaping and tree planting. The conclusion of this analysis is a 'Final Concept' which is the officers recommended design concept to be taken forward into detailed design.

The following sections set out in detail the results of the modelling work that has been undertaken comparing, the 'Do Nothing scenario with 'Do Optimum and the 'Final Concept' design. The modelling results set out in the remainder of this Appendix relate to comparison of results against a validated 2016 baseline scenario and against an estimated 2031 'Do Nothing' future scenario.

Traffic Modelling

To support this process, peak period microsimulation traffic modelling has been undertaken using industry standard software (Paramics) to assess and compare the 'Do Nothing', 'Do Optimum' and 'Final Concept' options in terms of all vehicle journey times, bus journey times and reliability and peak hour queue lengths at key junctions along the length of the proposed scheme, based on 2016 and 2031 flows. The model has been run multiple times and an average of results has been taken. The results focus on the AM peak (8am-9am) and PM peak (5pm-6pm). The variations in bus journey times within these runs have been assessed to provide an indication of how bus journey reliability would be affected within each scenario.

Whilst individual cyclists are not included as a vehicle type explicitly in the Paramics model, provision for cycle movements is implicitly taken into account in the modelling where appropriate to reflect interactions with other vehicular traffic. The proposals provide for segregated provision for cyclists along the corridor and at locations where specific provision to assist cyclists is provided then this is explicitly included within the Paramics model. For example:

- Advanced stop-lines and/or advance green times for cyclists at signalised junctions,

- Toucan crossing provision,
- Crossings for cyclists/pedestrians on ‘Dutch’ roundabout entry and exit.

Traffic flows for 2031 have been provided by the Cambridge Sub-Region Model (CSRM) which has recently been updated to reflect more accurately the capacity of the road network, to take into account the emerging Local Plan developments and to reflect the anticipated influence on traffic levels of Greater Cambridge Partnership measures and other transport infrastructure improvements that are expected to be delivered over the coming years. This modelling scenario, known as the Foundation Year base, is also being used to assess other GCP schemes. The traffic modelling is based on current best practice advice for both strategic and local modelling techniques. All models have been developed using WebTAG Department for Transport guidance in terms of model development and validation. Industry standard modelling and forecasting techniques have been used.

Modelling Results and Conclusions

Journey Times (All Vehicles)

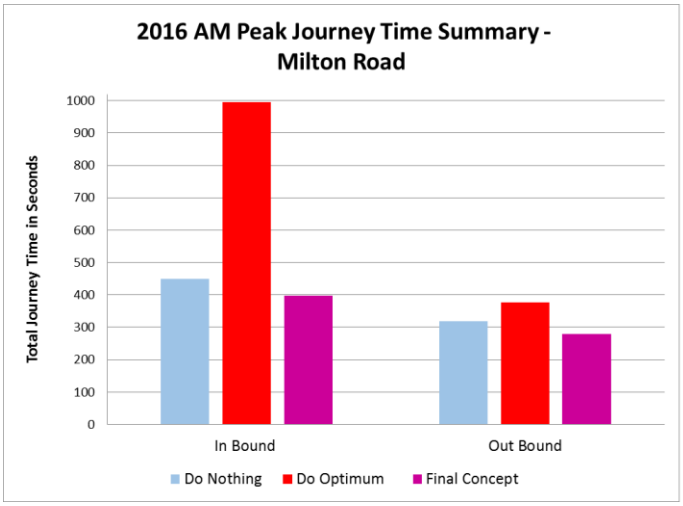
The graphs below provide a summary of 2016 & 2031 peak period journey times in minutes (combined bus and non-bus) within the AM and PM peak periods along the length of Milton Road, for each of the three scenarios tested.

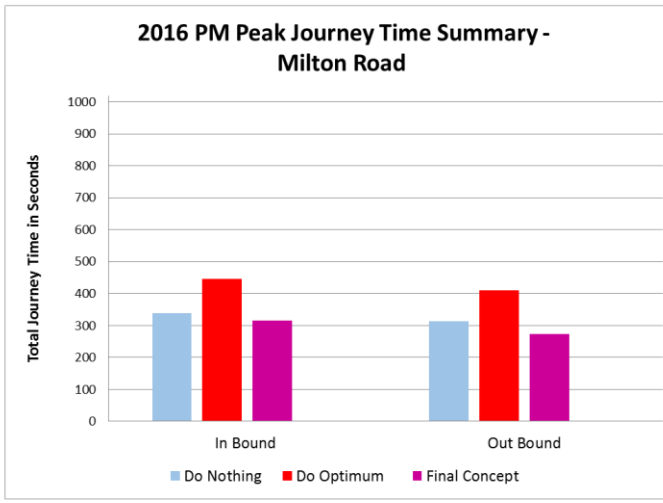
Compared with ‘Do Nothing’, in the 2016 AM peak the ‘Do Optimum’ proposal shows a more than doubling of the current journey times inbound into Cambridge from 7.5 mins to 16.6 mins. Outbound journeys are estimated to increase by 1 minute from 5.3 mins to 6.3 mins. In the 2016 PM peak inbound journey times increase by 1.8 minutes from 5.6 to 7.4 mins. Outbound trips increase by 1.6 minute from 5.2 mins to 6.8 mins.

The ‘Final Concept’ scenario in comparison to ‘Do Nothing’ shows a slight decreasing of the journey time, in both directions, in the AM and PM peak. In the 2016 AM Peak this results in around a 1 minute saving for inbound journeys and 0.6 minute saving for outbound. In the PM peak a journey time saving of 0.4 minutes is estimated for inbound journeys and 0.6 for outbound.

Overall the 2016 journey time comparison demonstrates that the ‘Final Concept’ essentially maintains current levels of total vehicle journey times along Milton Road in the AM and PM peaks while still delivering many of the elements of pedestrian & cycle provision identified in the ‘Do Optimum’ Scheme . The ‘Do Optimum’ scheme if delivered in its entirety is estimated to significantly increase the delays in the network compared to ‘Do Nothing’.

2016 DO NOTHING’ V ‘DO OPTIMUM’ v ‘FINAL CONCEPT JOURNEY TIME COMPARISON





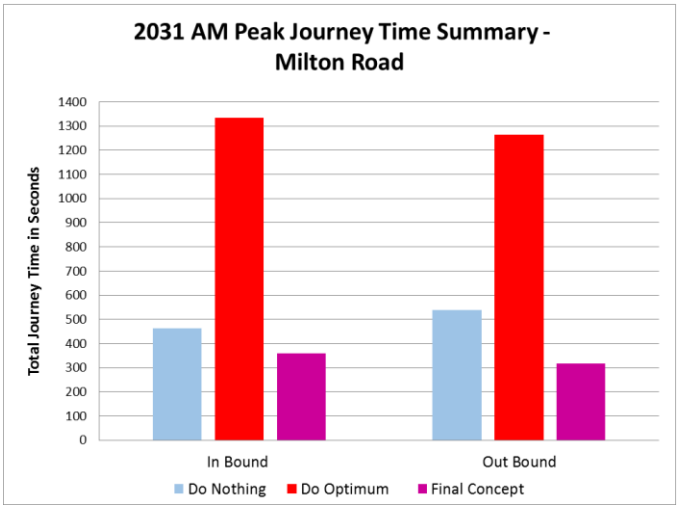
The graphs below provide a summary of estimated 2031 peak period journey times (combined bus and non-bus). In general the results indicate that extra traffic flow expected along Milton Road in 2031 will increase the delays in the network within all scenarios.

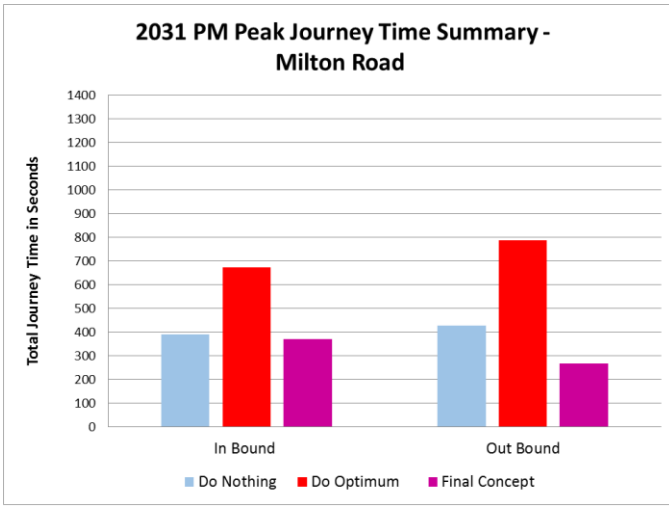
Compared with 'Do Nothing', in the 2031 AM peak the 'Do Optimum' proposal shows an estimated tripling of the current journey times into Cambridge from 7.7 mins to 22.2 mins. Outbound journey times are estimated to more than double from 9.0 mins to 21.1 mins. In the PM peak inbound journey times are predicted to increase by 4.7 minutes from 6.5 to 11.2 mins. Outbound trips increase by 6.0 minutes from 7.1 mins to 13.1 mins.

The 'Final Concept' scenario in comparison to 'Do Nothing' shows a slight 2031 AM peak decrease in the inbound journey time, of 1.7 minutes, and the outbound journey time is estimated to decrease by 3.3 minutes. In the 2031 PM peak, the inbound journey time is similar to the 'Do Nothing' scenario (saving 0.3 minutes) and the outbound journey time shows a saving of around 2.6 minutes.

The 2031 journey time comparison shows the 'Do Optimum' proposal does not cope well with expected 2031 traffic flows and the delay is significantly increased compared to 2016. 'Final Concept' provides a scenario which achieves the shortest journey time in both directions in 2031, within the AM & PM Peak.

2031 DO NOTHING' v 'DO OPTIMUM' v 'FINAL CONCEPT' JOURNEY TIME COMPARISON





Bus Journey Time and Bus Reliability

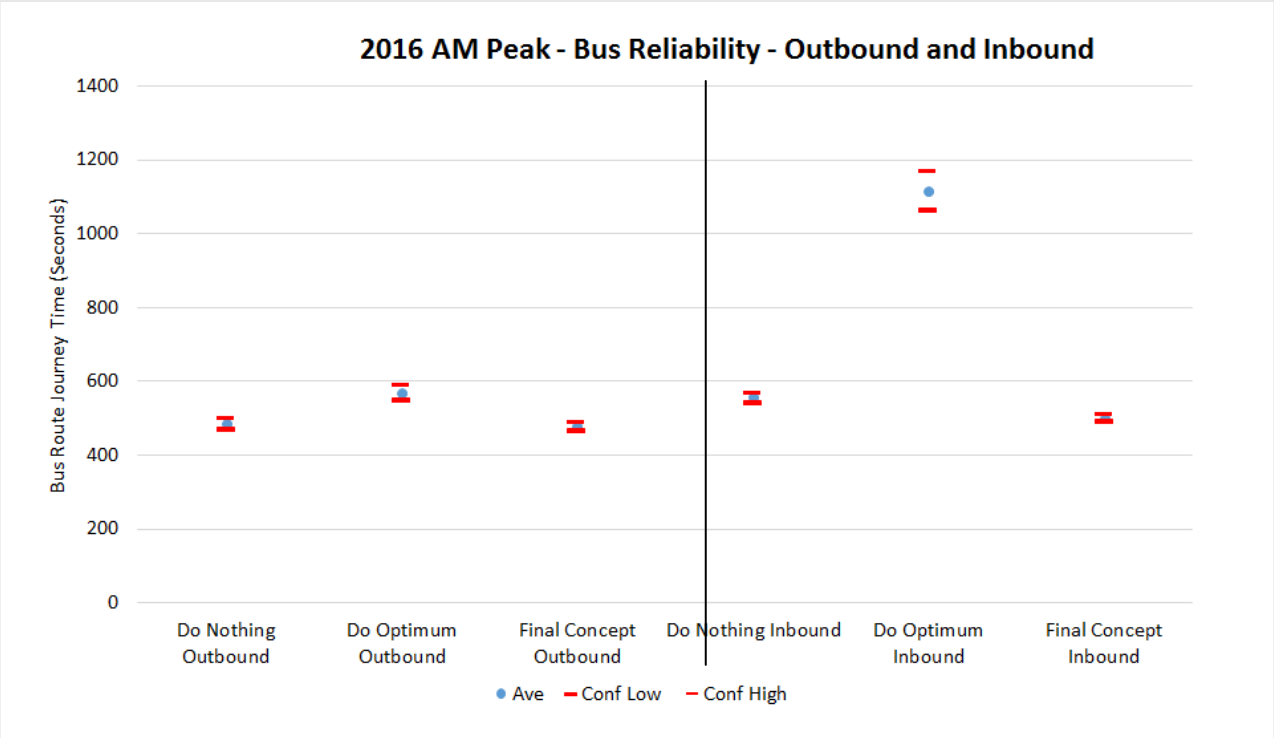
The impact on bus reliability within each of the three scenarios is shown below. The bus journeys are based on those services that travel the entire length of the scheme and do not make any allowance for dwell times at stops. The bus journey time also includes the journey along Mitcham's Corner and Victoria Ave (due to the way the bus routes are coded into the model), therefore the bus journey times shown in the graphs can be longer than the general traffic, which does not includes the journey time along Mitcham's corner and Victoria Ave, however it still enables a direct comparison between scenarios.

It should be noted that within the 'Final Concept' scenario the modelling work does not currently take account of measures within traffic signal sequences to prioritise bus movements which could further reduce bus journey times but may lengthen non-bus times. However, within the 'Do Optimum' scheme, all bus priority detailed within the proposal has been included in order to fully represent the 'Do Optimum' scheme put forward in its entirety.

The bus reliability indicators are provided relative to the current 2016 situation and the estimated future 2031 situation. Within both these time periods figures presented are the average journey times for the services over 10 model runs and seek to compare the range of journey times recorded over each peak hour to give a standard deviation and confidence interval which indicates journey time variability during the hour.

The graphs below show bus service average journey times and reliability in 2016 and 2031 for each scenario in the AM and PM peak. The closer the low/high confidence interval is to the average the less variability in the bus journey times recorded in the model and the more reliable the bus service. The journey time is indicated on the y axis.

2016 AM 'DO NOTHING' v 'DO OPTIMUM' v 'FINAL CONCEPT' BUS JOURNEY TIME AND RELIABILITY



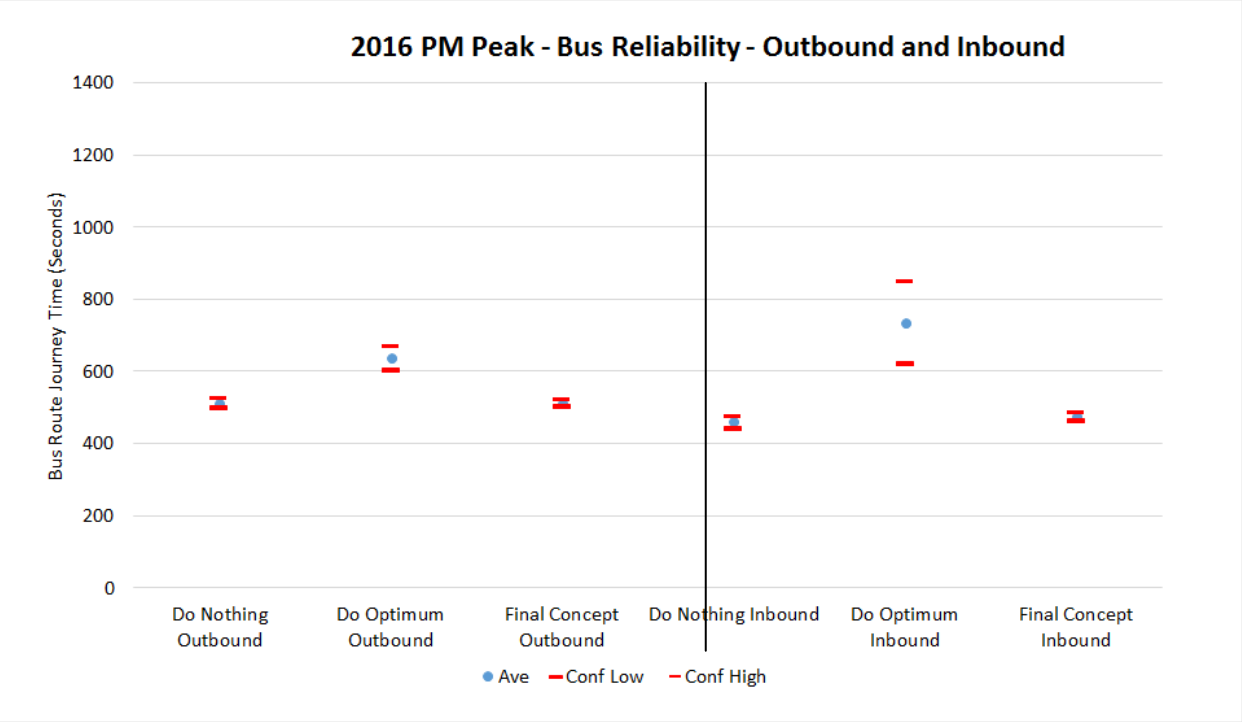
In the 2016 AM peak outbound bus reliability in 'Do Optimum' is slightly worse than the 'Do Nothing' with average journey times being 1.4 minutes longer. For inbound bus travel, reliability is much worse, with average journey times being 9.3 minutes longer and more variable in the 'Do Optimum' proposal compared to the 'Do Nothing' scenario, this is despite 'Do Optimum' including for bus priority within the signalisation of certain junctions. A significant contributor to the increase in inbound bus journey times is the large reduction in bus lane provision within the 'Do Optimum' proposal, compared to the 'Do Nothing'.

The 'Final Concept' provides a similar total length of bus lanes to the 'Do Nothing' scenario but allocates these sections of bus lane more evenly between inbound and outbound bus travel, in comparison to the 'Do Nothing' scenario which focuses bus lanes on inbound bus travel. The 2016 AM 'Final Concept' bus reliability results shows improved bus reliability for both directions of travel, maintaining average bus journey times inbound (even with a reduction of bus lanes on this side of the road in comparison to 'Do Nothing') and improving outbound average bus journey times in comparison to 'Do Nothing' (through increasing bus lanes on this side of the road). As previously stated bus priority measures at traffic signals have not yet been applied in the 'Final Concept' scenario which has the ability to further reduce bus journey times but may lengthen non-bus times.

Note: Bus priority measures at traffic signals can be counter-productive unless applied in a balanced way avoiding undue delay for other traffic which can, in itself, lead to delays to buses upstream of key junctions. Further detailed work on this will be

undertaken as part of the detailed design work once key junction layouts have been determined and remodelled for the purposes of a business case.

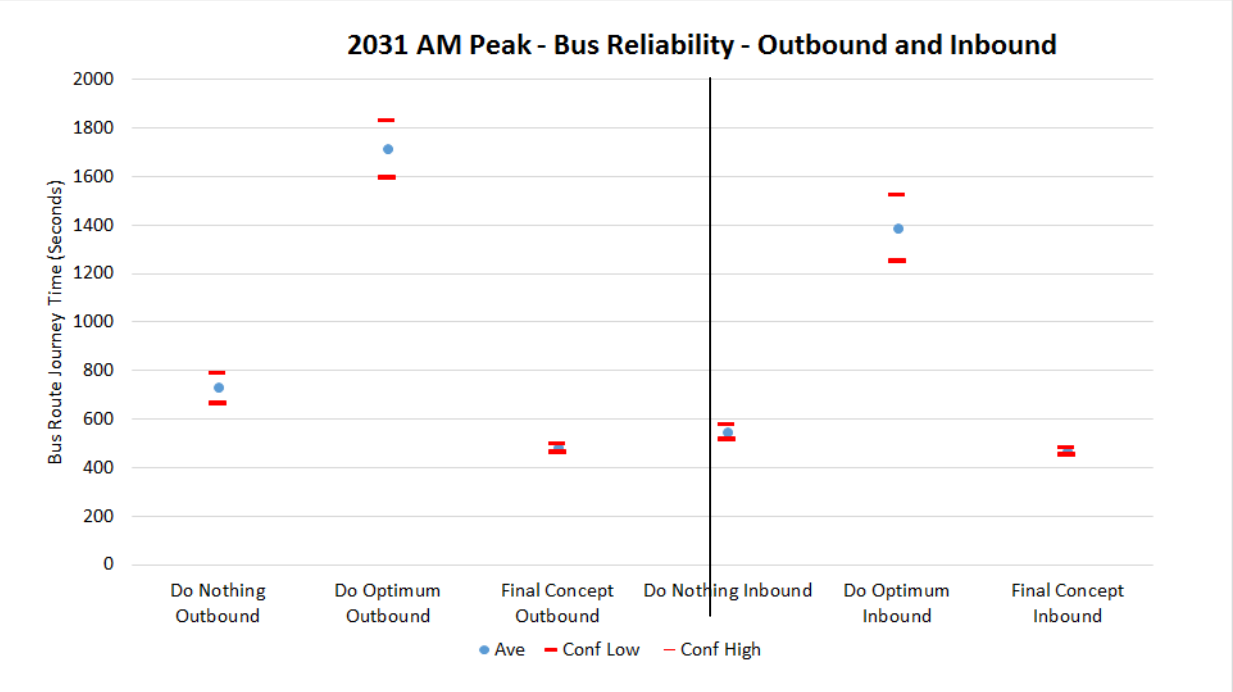
2016 PM 'DO NOTHING' v 'DO OPTIMUM' v 'FINAL CONCEPT' BUS JOURNEY TIME AND RELIABILITY



In the 2016 PM peak, outbound bus reliability in 'Do Optimum' is worse than the 'Do Nothing' and average journey times are 2.1 minutes longer. For inbound travel, bus reliability is much worse and average journey times extent to 4.6 minutes longer.

The 'Final Concept' again seeks to strike a balance across all modes and shows improved bus reliability for both directions of travel while maintaining average journey times to the 'Do Nothing'. This will be improved further in detailed design through the consideration of priority measures at traffic signals not yet been applied in the 'Final Concept' Scenario.

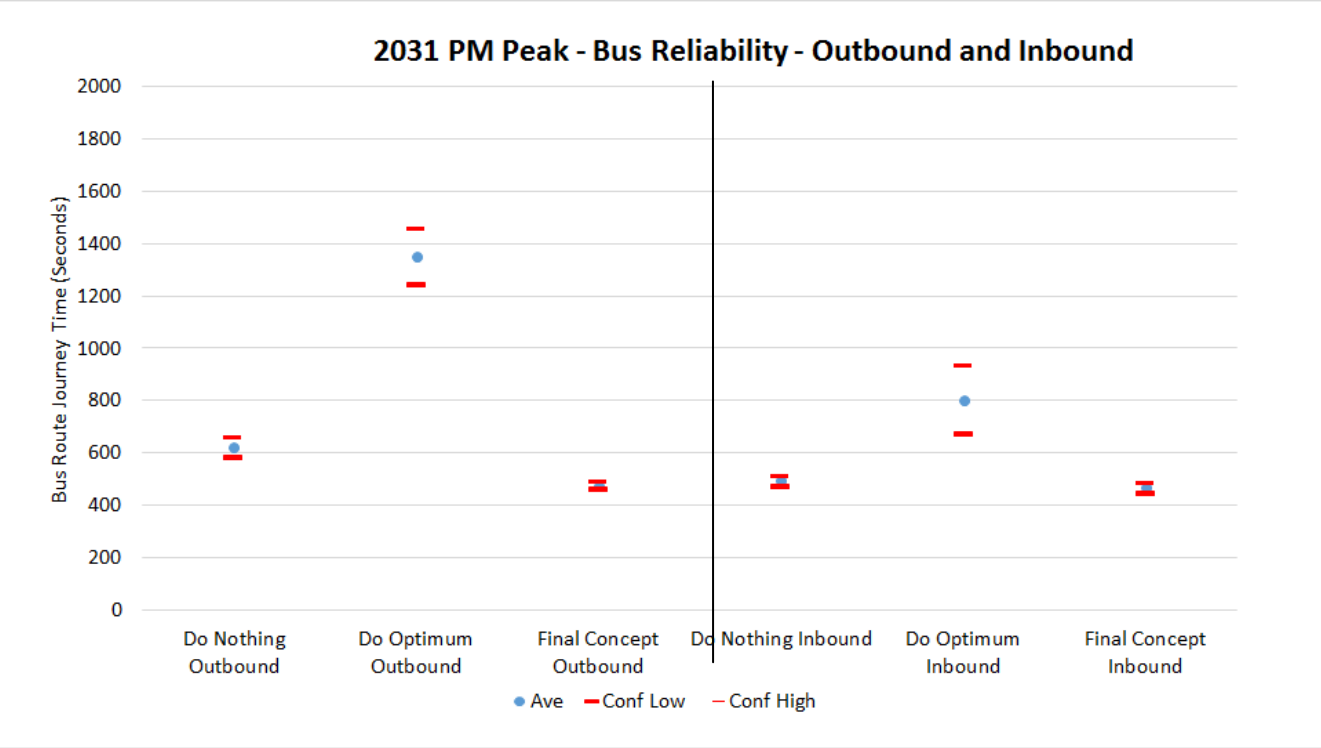
2031 AM 'DO NOTHING' v 'DO OPTIMUM' v 'FINAL CONCEPT' BUS JOURNEY TIME AND RELIABILITY



In the 2031 AM peak, outbound bus reliability in 'Do Optimum' is worse than the 'Do Nothing' and average journey times are 16.4 minutes longer. Inbound bus reliability is also worsened in combination with average journey times increasing by 14.0 minutes.

The 'Final Concept' in the 2031 AM Peak shows improved bus reliability in both directions of travel and improved average journey times over the 'Do Nothing' scenario, saving 4.1 minutes in average journey time for outbound bus travel and 1.3 minutes for inbound bus travel.

2031 PM 'DO NOTHING' v 'DO OPTIMUM' v 'FINAL CONCEPT' BUS JOURNEY TIME AND RELIABILITY



In the 2031 PM peak, outbound bus reliability in 'Do Optimum' is worse than the 'Do Nothing' and average journey times are 12.2 minutes longer. Inbound bus reliability is also more variable in combination with average journey times increasing by 5.2 minutes.

The 'Final Concept' in the 2031 PM Peak shows improved bus reliability in both directions of travel and improved average journey times over the 'Do Nothing' scenario, saving 2.5 minutes in average journey time for outbound bus travel and 0.6 minutes for inbound bus travel.

The modelling results demonstrate that the proposed 'Final Concept' can reduce the bus journey time and improve bus reliability in 2031. The 'Do Optimum' proposal significantly increases bus journey time and bus journey time variability is much increased, showing the scheme is unable to provide bus priority over general road traffic in 2031, within the context of increasing congestion on the network.

Whilst the ‘Do Optimum’ solution developed through the LLF contains many useful proposals, the modelling assessment undertaken demonstrates that this design concept would significantly disadvantage bus vehicle movements in no small part due to a signifiacnt reduction of bus lanes over the current ‘Do Nothing’ scenario. This therefore indicates a further deterioration in bus journey times and reliability in 2031 under this scenario.

Improved bus travel in 2031 is required , to be able to adequately cater for longer distance movements into Cambridge from, for example, the new towns of Northstowe, Waterbeach and Camborne where cycling and walking are not reasonable options. Improving access to Cambridge from these areas is essential for increased economic growth which is the main driver for the Greater Cambridge Partnership. As the ‘Do Optimum’ scheme does not adequately address the scheme objectives relating to buses, modifications are required to achieve a better overall balance, as suggested within the ‘Final Concept’ scheme.

Consideration of ‘Do Optimum’ design modifications to develop a ‘Final Concept’

As part of the process to identify modifications to the ‘Do Optimum’ design, in order to develop the ‘Final concept’ design, further LLF meetings were held in May and June to seek feedback on the emerging modelling results and to test initial ideas for modifying the design to better response to all the scheme objectives.

Individual Junction Modelling

To consider how best to modify the ‘Do Optimum’ design, into a ‘Final Concept’ design, alternative junction designs have been assessed with a view to balancing vehicle journey times along Milton Road (whilst maintaining as much as possible the ‘Do Optimum’ ideas for pedestrians and cycling), to optimise the length of bus lanes and to maximise the opportunites for landscaping and tree planting.

The modelling undertaken is based on conceptual designs rather than fully engineered detailed designs, however, the results provide a broad comparison on a similar basis of the impacts of the different design options at these key junctions and is considered appropriate for comparison purposes and to guide and inform decision making.

Within the Paramics modelling, four key junctions, during the peak periods, have been reviewed in detail to understand the issues of why the ‘Do Optimum’ design results in significant increases in vehicle journey times along Milton Road. The aim of this analysis has been to consider various design modifications aimed at achieving a better response to all project objectives, and hence inform the ‘Final Concept’ design proposal. The key junctions considered along Milton Road and which most significantly affect the overall journey times of vehicle traffic are:

- Gilbert Road,
- Elizabeth Way,
- Arbury Road, and

- King’s Hedges Road

Officers have reflected on the individual junction modelling results and have reviewed other design issues that arise from the ‘Do Optimum’ design to consider what junction design changes would be appropriate for inclusion in the ‘Final Concept’.

The results presented below look at each junction in turn and show the differences in maximum vehicle queuing at each arm of the junction, as well as overall total vehicle queuing, relative to the three scenarios of ‘Do Nothing’, ‘Do Optimum’ and the final junction designs included within the ‘Final Concept’ scheme. These results are shown relative to the peak periods of 2016 and 2031 and measured in terms of number of vehicles.

It should be noted that although each junction is looked at separately in the analysis below, each scheme must be ultimately looked as a whole and hence the total journey time and bus reliability has been presented first in this Appendix. Impacts at one junction can be due to the cumulative impact of all changes at junctions along the road. So for example if more traffic is able to pass through Elizabeth Way this can impact downstream on Gilbert Road and so on. Therefore, although there may, in some cases, look like small differences between some of the junctions considered, when assessed as a whole these can culminate in bigger difference across the whole scheme.

Gilbert Road Junction

Do Nothing

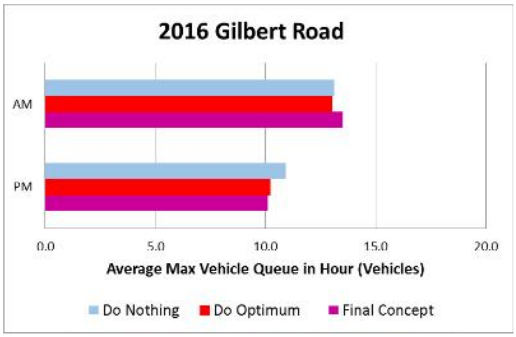
Do Optimum

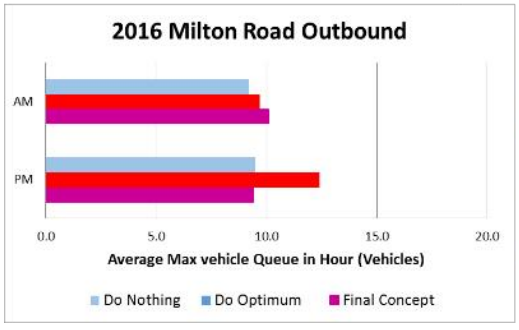
Final Concept

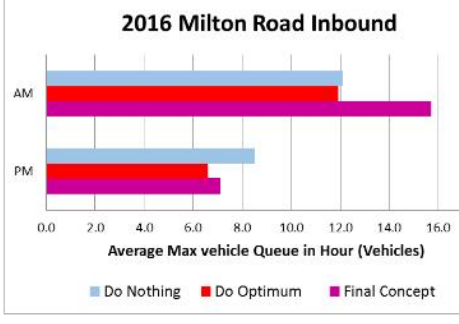
In reviewing the 'Do Optimum' junction layout, it was identified that the suggested radiuses of the junction were too tight to allow for all vehicle turning movements and hence the corner radii need to be relaxed. As a result this would impact on the space available for cycle and pedestrian movements.

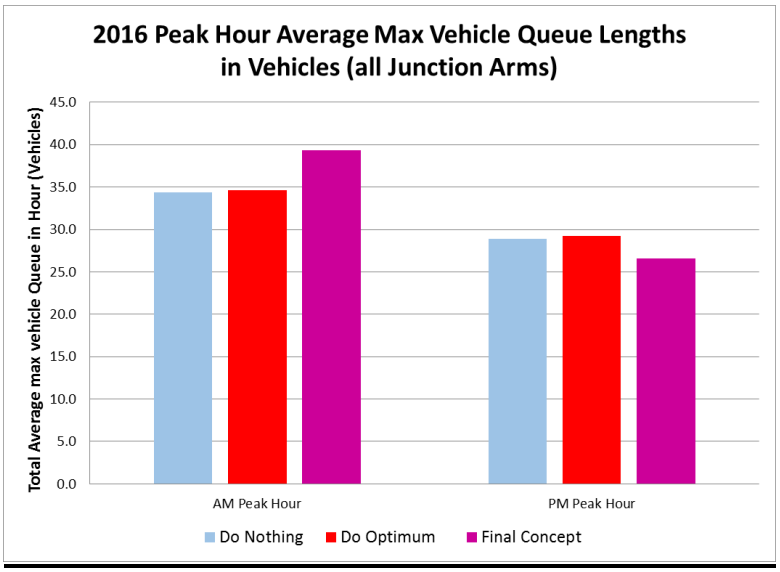
Whilst the proposed Final Concept design achieves a high degree of segregation for cyclists leading to and from the junction, there is insufficient space available for fully segregated cycle movements across the junction. It is suggested that the current signal staging should be trained with a main road and side road stage along with a full green pedestrian stage. In considering layout changes the need to avoid delays arising from motor vehicles turning right into the side road without compromising inbound cycle movements on the main road has been taken in to account.

2016 'DO NOTHING', 'DO OPTIMUM AND 'FINAL CONCEPT' QUEUE LENGTH SUMMARY RESULTS

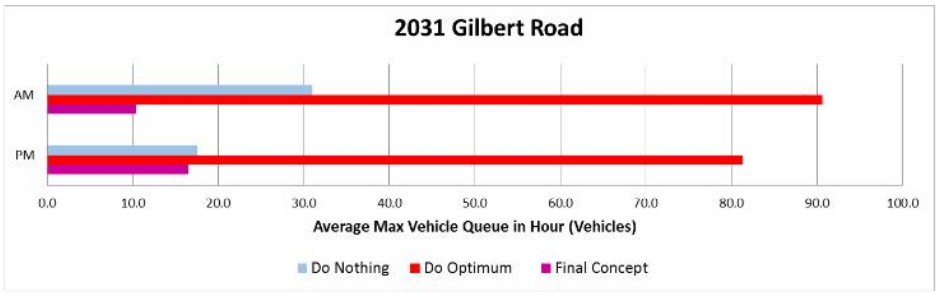


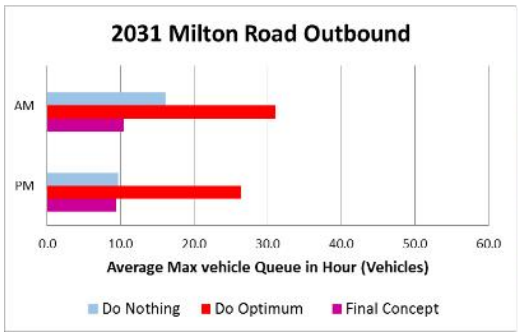


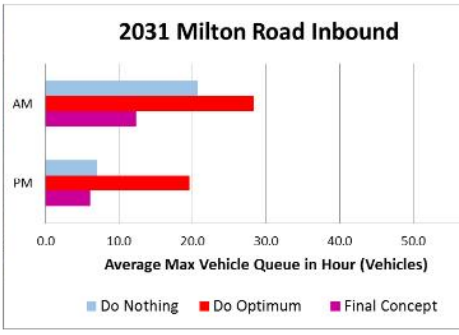


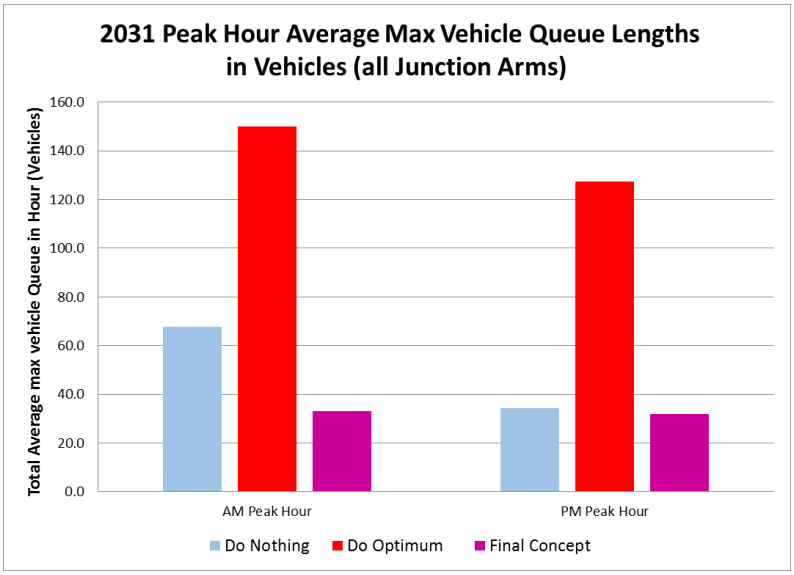


2031 'DO NOTHING', 'DO OPTIMUM AND 'FINAL CONCEPT' QUEUE LENGTH SUMMARY RESULTS









Graphs above compare the queue length on each arm and the total queue length at Gilbert Road junction in 'Do Nothing, 'Do Optimum' and 'Final Concept' scenarios in 2016 and 2031. In 2016, the total queue length is quite similar in all of the scenarios. The comparison demonstrates that neither the 'Do Optimum' nor the 'Final Concept' schemes have significant impact on this junction in 2016 in comparison to the 'Do Nothing' scenario. The 'Final Concepts' slight total queue increase (4.9 vehicles) is due to the improvements at Elizabeth Way roundabout, within this scenario, which allows more traffic from Elizabeth way to reach the inbound arm of Milton Roa,d at the Gilbert Road junction.

In terms of cumulative impacts of additional delay on all approaches to the junctions at Gilbert Road in 2031, in both the AM and PM peak hour there is significant additional delay associated with 'Do Optimum' and this is as a result of increases in queueing on all approaches but most notably on Gilbert Road.

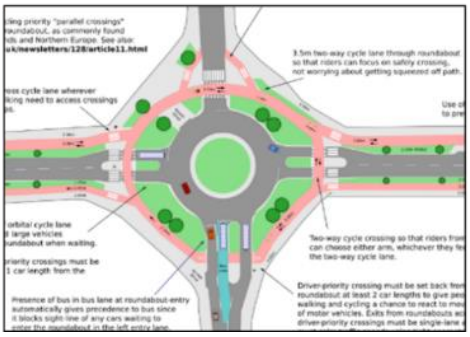
This occurs because of the additional delay and queuing that is experienced at Elizabeth Way and it's interaction with the signals at Arbury Road which causes blocking back to Mitcham's Corner and impacts on the ability of traffic to exit from Gilbert Road. The link queue length result indicates the queue at the Milton Road outbound link north of Gilbert Road blocks back to Gilbert Road and Milton Road.

The 2031 flow has less impact on the 'Final Concept' with the improved Elizabeth Way signalised roundabout and optimised Arbury Road junction. In the AM peak, the queue length on Gilbert Road is slightly less than 2016 as the flow on Gilbert Road is indicated to decrease in 2031 following incorporation of the CSRM projected reallocation of flows on the network in 2031.

Elizabeth Way Junction

Do Nothing

Do Optimum



Final Concept

The ‘Do Optimum’ design promotes the use of a ‘Dutch’ style roundabout at this junction. While officers agree that this would provide enhanced facilities for pedestrians and cyclists, the modelling of this approach suggests that such a design would severely compromise the vehicular capacity and therefore also have an adverse impact on achieving bus priority.

As the ‘Dutch’ style roundabouts are a key aspect of the ‘Do Optimum’ design and given the challenges in modelling this design concept, the Paramics modelling process has been peer reviewed by consultants, Royal Haskoning DHV, who have experience this is field of modelling. Royal Haskoning DHV has confirmed that the results from the Paramics process are broadly as expected.

The modelling shows that the ‘Final Concept’ proposal to replace the existing roundabout control with a signalised junction design would manage delays much more effectively and provide greater opportunity to prioritise bus movements as well as allowing coordination with the Arbury Road junction through linked signal timings to optimise the progression of buses and to manage and balance main road and side road delays. This could be achieved either through signalising the existing roundabout or through a signalised ‘T’ junction or crossroads. Both options have strengthens and weaknesses:

A ‘T’ junction signalised design would:

- improve conditions for cycling and walking by the provision of controlled crossing points and by allowing outbound cyclists on Milton Road to bypass the junction control altogether
- reduce the high level of injury accidents at the junction involving cyclists through better segregation of cycling movements
- provide more opportunities for improving the public realm and accessible landscaping areas
- increase overall traffic delays compared with a ‘Do Nothing’ scenario
- Sever junction access/egress for Highworth Avenue (a signalised crossroads could avoid this but the modified design would compromise other benefits)

A signalised roundabout would:

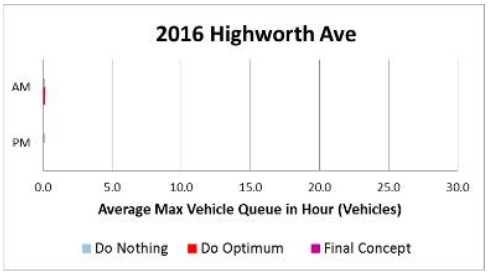
- reduce traffic delays compared with a ‘Do Nothing’ scenario
- reduce the high level of injury accidents at the junction involving cyclists

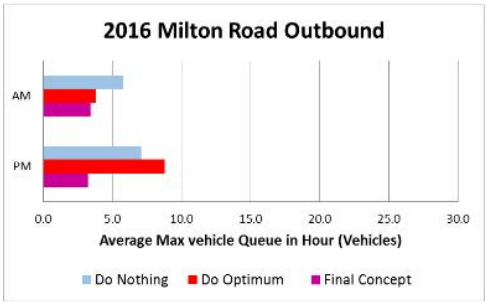
- Require more traffic signal street clutter
- achieve less segregation of cycling movements
- retain access/egress for Highworth Avenue

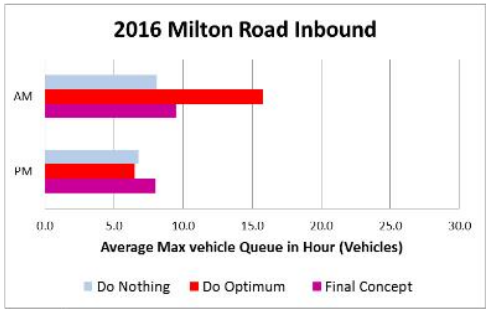
Whilst the number of daily trips affected by closing off the Highworth Avenue arm is small, local concerns have been raised over the impact on motorised access/egress for Highworth Avenue residents and the 'Do Optimum' design addresses these concerns by retaining access/egress directly to/from Milton Road, albeit at a cost to main road movements. Against a backdrop of concern over the accessibility of Highworth Avenue, a signalised roundabout options is suggested within the 'Final Concept'.

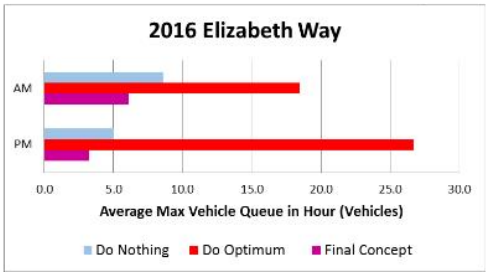
It is recognised that further work on how to manage cycling movements, and provide as much segregation as possible, as part of a signalised roundabout design, needs to be further strengthen and this will be considered at the detailed design stage.

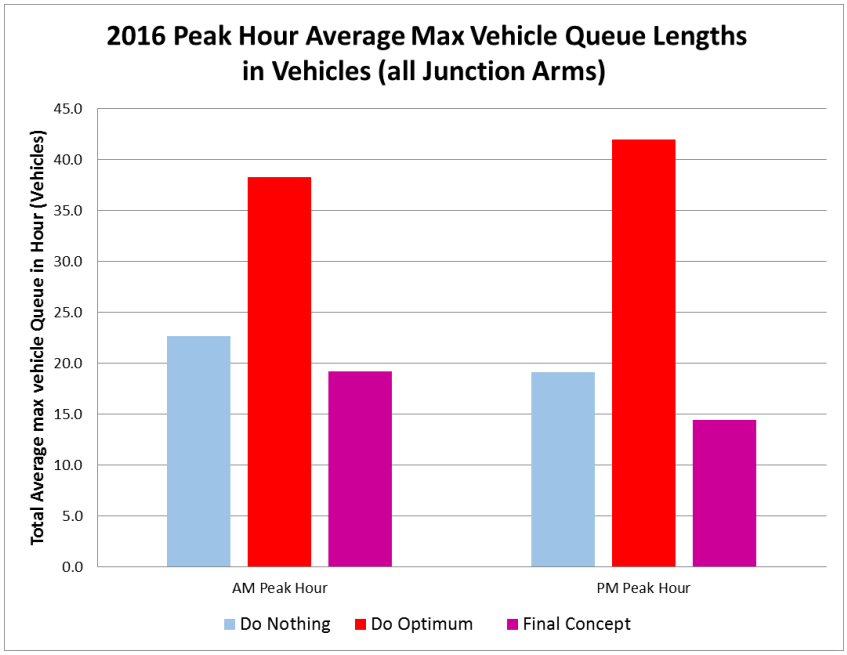
2016 'DO NOTHING', 'DO OPTIMUM AND 'FINAL CONCEPT' QUEUE LENGTH SUMMARY RESULTS



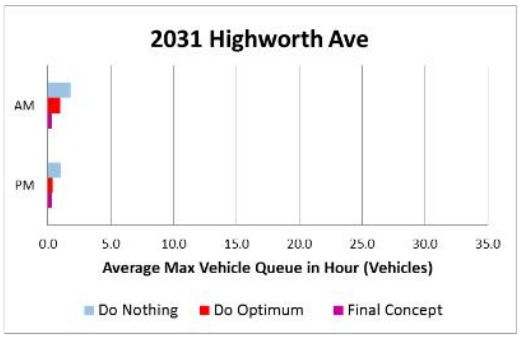


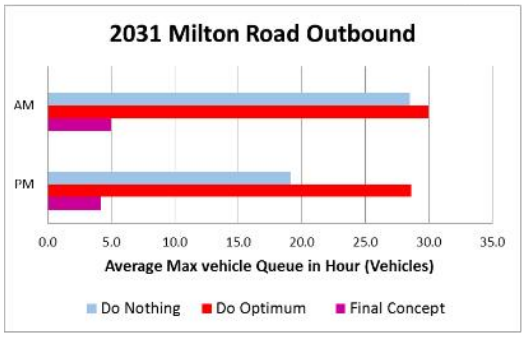


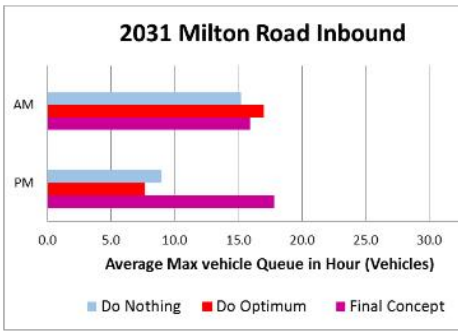


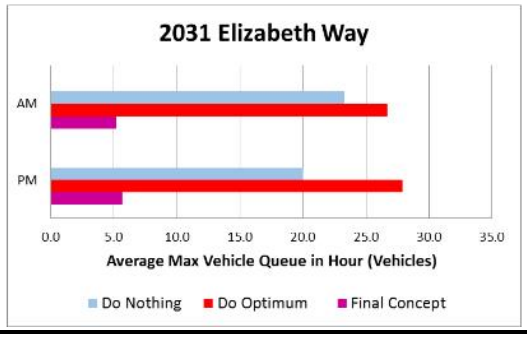


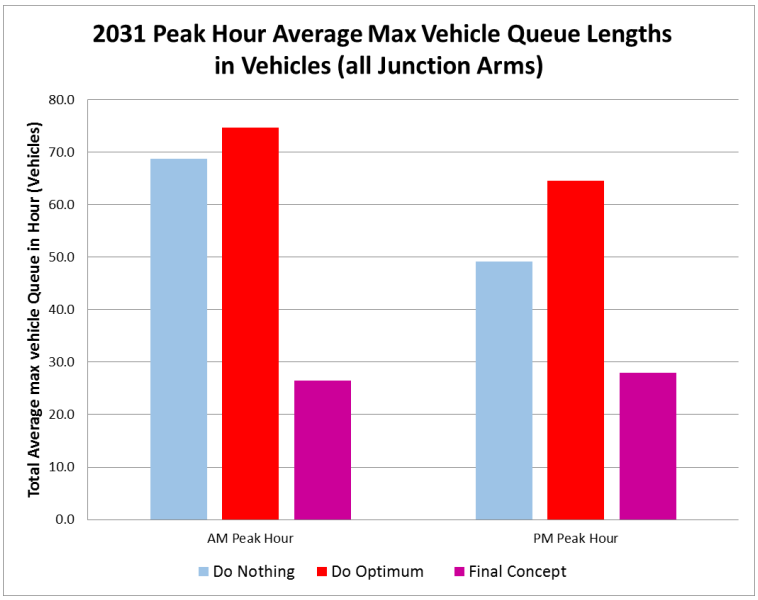
2031 'DO NOTHING', 'DO OPTIMUM AND 'FINAL CONCEPT' QUEUE LENGTH SUMMARY RESULTS











The graphs above compare the total queue length and the queue length on each arm at Elizabeth Way junction.

In 2016, the 'Do Optimum' scenario has longer queues on Elizabeth Way and Milton Road than 'Do Nothing'. The significant queue length increase on Elizabeth Way indicates the junction is over capacity in the 'Do Optimum' scheme. The 'Final Concept' scenario shows much improved total queue lengths in comparison with the 'Do Nothing' scenario, in large part due the signalisation reducing driver hesitation and delay, increasing capacity, and through better signal optimisation with the Arbury Road junction.

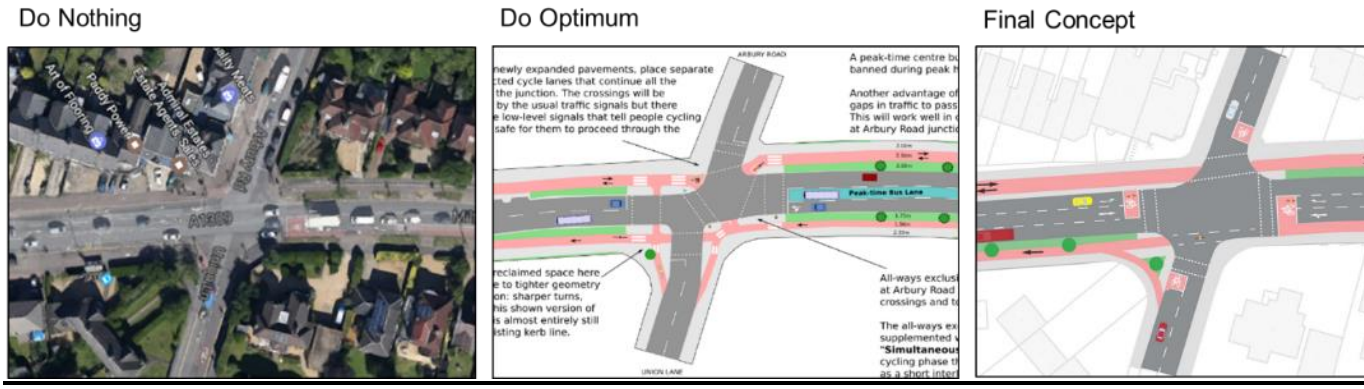
In 2031 the level of queueing increases across all scenarios and on all approaches, particularly in the AM peak where total queue delay almost doubles in 'Do Optimum' from 38 vehicles in 2016 up to 78 vehicles in 2031. In the PM peak the increase in queueing is less pronounced.

In both the AM and PM peaks the 2031 flow significantly increases the queue length on Elizabeth way in the 'Do Nothing' scenario, close to the levels indicated in the 'Do Optimum' scenario, which could block back to the Chesterton Road roundabout.

The overcapacity of the junction on Elizabeth Way in the 'Do Optimum' scenario causes rerouting on Milton Road and has a resultant effect on the performance of Gilbert Road in 2031. The 'Do Optimum' Scenario shows slightly shorter queue lengths on the Milton Road inbound arm in the PM peak, but this is due to excessive congestion at the Arbury Road junction and Kings Hedges junction blocking the traffic from arriving at his arm.

It is notable that the 2031 'Final Concept' provides an improvement in overall queuing compared with the 'Do Nothing' scenario in 2031 as the signalised roundabout improves the capacity at the junction.

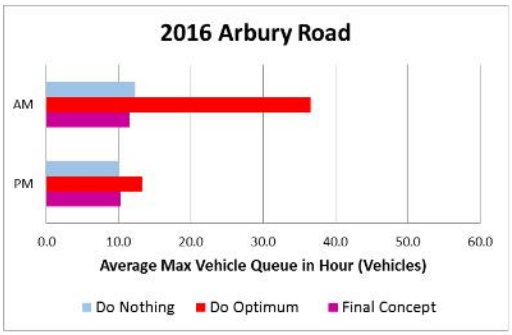
Arbury Road Junction

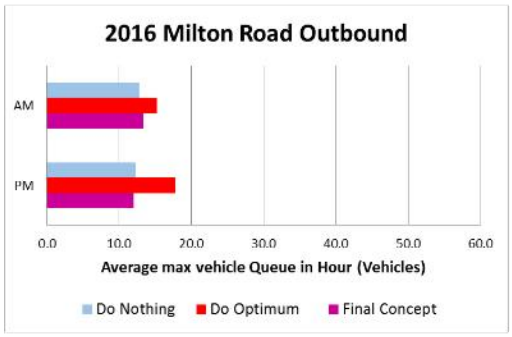


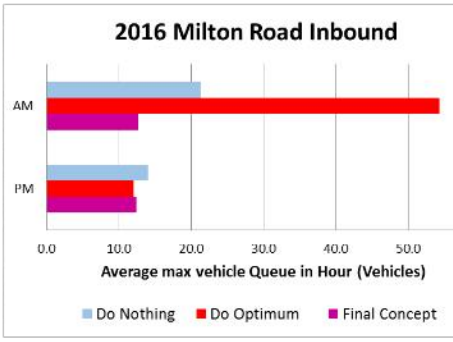
At the Arbury Road / Union Lane junction the 'Do Optimum' design advocates a slight staggering of the layout and a multiple signal stage sequence which would result in much longer delays and queuing. It would also be very difficult to fit this design within the existing highway boundaries whilst maintaining road space for larger vehicles to manoeuvre. The 'Do Something' design proposed closing off the Union Lane arm of the junction to motor vehicle movements. Whilst this approach would be more effective in managing queuing and delays, the concerns over traffic being displaced to other routes within East Chesterton and the impact on local accessibility as a result of closing off Union Lane are recognised and officers have considered alternative design options.

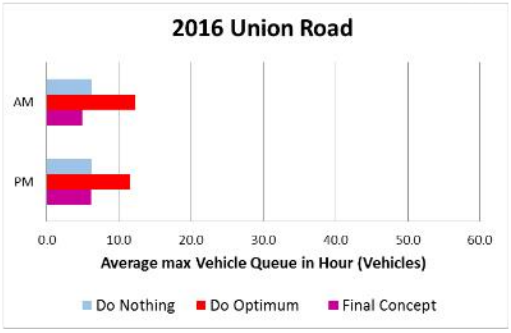
Compromise designs to keep open the Union Lane arm have been explored including the left turn from Union Lane being prohibited. Such an option was shown to reduce queuing on Union Lane itself whilst allowing the Union Lane signal stage to run at the same time as the main road crossing stage thereby optimising the signal sequence to allow a greater proportion of 'green time' to be given to the main road. However, feedback from the LLF suggests any restriction on traffic movements at the junction would be unacceptable to the local community despite the benefits that could accrue in terms of managing overall traffic delays. Therefore, within the 'Final Concept' the existing junction signal operation has been retained with further consideration to be given to the segregation of cycling movements as part of detailed design work.

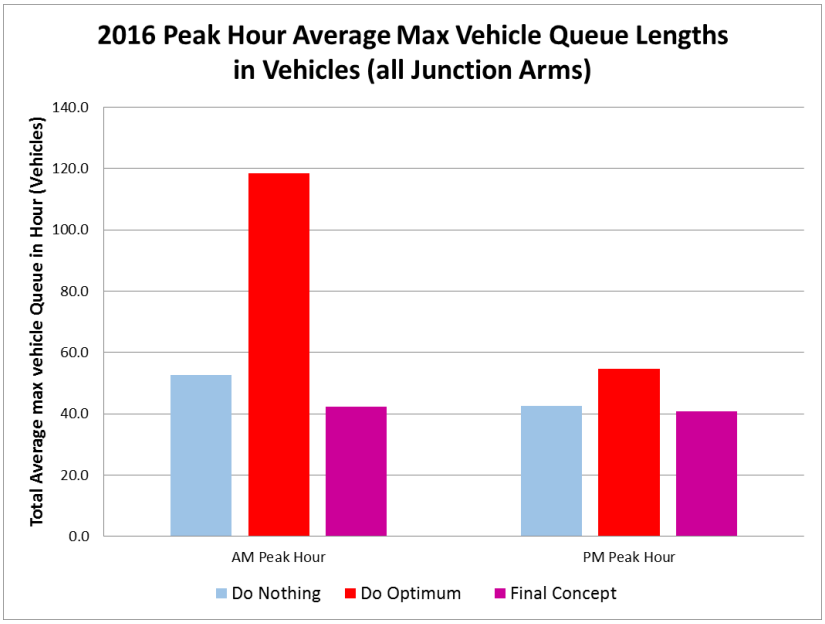
2016 'DO NOTHING', 'DO OPTIMUM AND 'FINAL CONCEPT' QUEUE LENGTH SUMMARY RESULTS



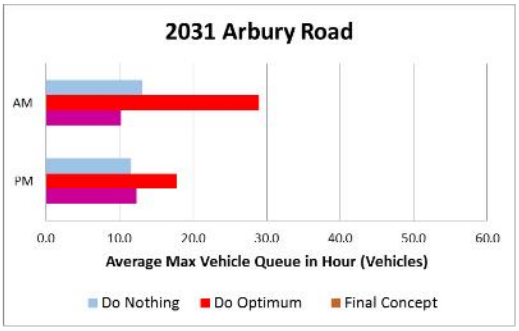


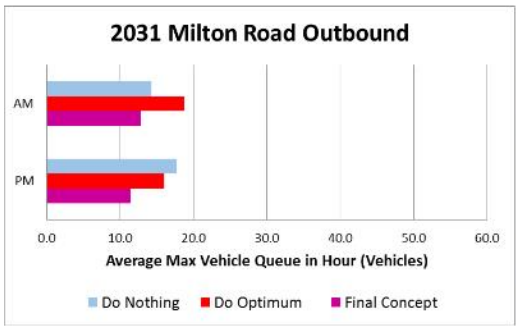




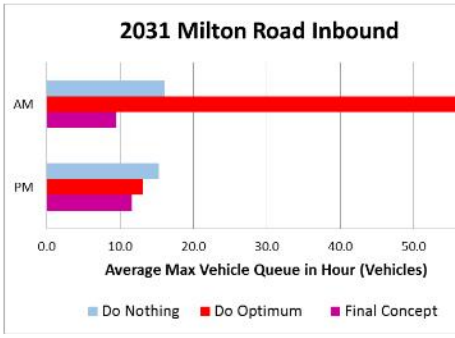


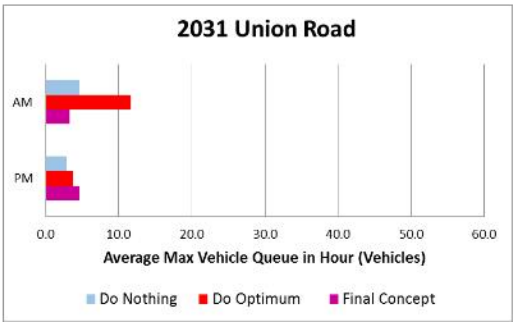
2031 'DO NOTHING', 'DO OPTIMUM AND 'FINAL CONCEPT' QUEUE LENGTH SUMMARY RESULTS

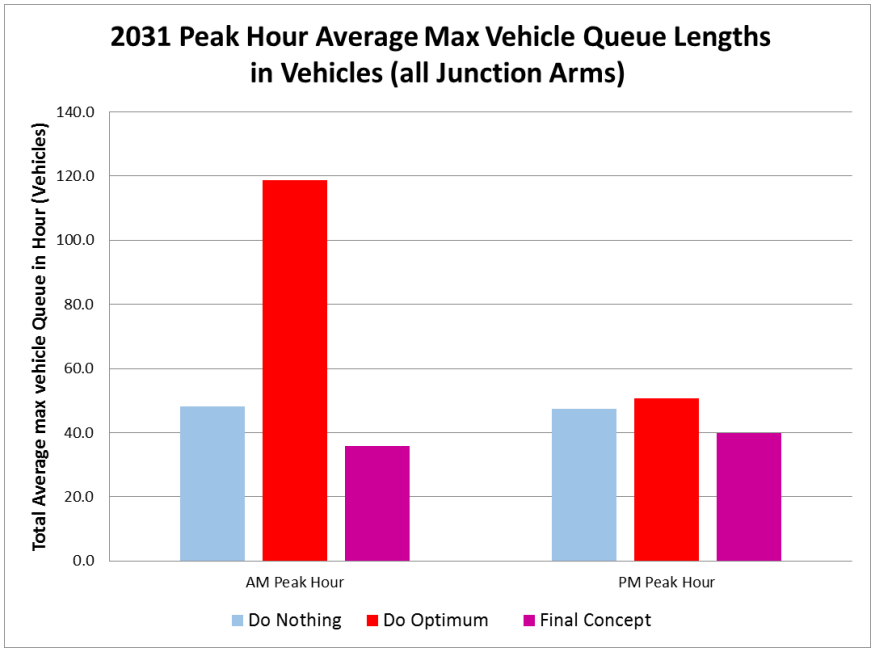

2031 Arbury Road
AM
PM
0.0
10.0
20.0
30.0
40.0
50.0
60.0
Average Max Vehicle Queue in Hour (Vehicles)
Do Nothing
Do Optimum
Final Concept


2031 Milton Road Outbound
AM
PM
0.0
10.0
20.0
30.0
40.0
50.0
60.0
Average Max Vehicle Queue in Hour (Vehicles)
Do Nothing
Do Optimum
Final Concept


Paddy Power
Admiral Estate Agents
Milton Rd
Arbury Rd


2031 Milton Road Inbound
AM
PM
0.0
10.0
20.0
30.0
40.0
50.0
Average Max Vehicle Queue in Hour (Vehicles)
Do Nothing
Do Optimum
Final Concept


2031 Union Road
AM
PM
0.0
10.0
20.0
30.0
40.0
50.0
60.0
Average Max Vehicle Queue in Hour (Vehicles)
Do Nothing
Do Optimum
Final Concept


2031 Peak Hour Average Max Vehicle Queue Lengths in Vehicles (all Junction Arms)
Total Average max vehicle Queue in Hour (Vehicles)
140.0
120.0
100.0
80.0
60.0
40.0
20.0
0.0
AM Peak Hour
PM Peak Hour
Do Nothing
Do Optimum
Final Concept

The graphs above compare the total queue length and the queue length on each arm at Arbury Junction. In both years 2016 and 2031, the ‘Do Optimum’ scenario generates longer queues than the ‘Do Nothing’ and ‘Final Concept’, on Arbury Road and Milton Road inbound, due to the over capacity of Elizabeth Way junction and the queues blocking back to Arbury Road junction. The ‘Final Concept’ slightly reduces queue length on Milton Road compared with ‘Do Nothing’ due to an extra flare provided on Milton Road inbound, which increases the capacity of the junction, as well as better optimisation with a signalised roundabout at Elizabeth Way.

In total, the 2031 results do not show significant queue length increases across the scenarios as the CSRM modelling indicates minimal flow increase on Arbury Road and Union Lane in 2031.

King’s Hedges Road Junction

Do Nothing

Do Optimum

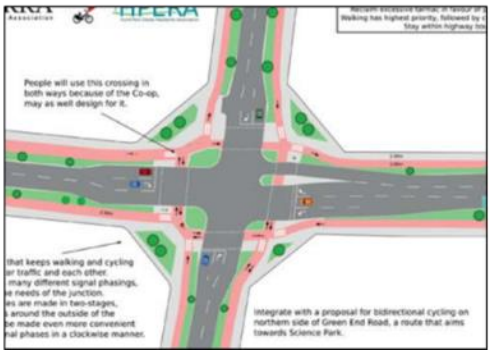
Final Concept

At the King’s Hedges Road junction the ‘Do Optimum’ scheme identifies a preference for a ‘Dutch’ style roundabout scheme which is what has been modelled within the ‘Do Optimum’ scenario, within the results show below. However, within the ‘Do Optimum’ proposals a signalised junction option, with single stage pedestrian and cycling crossing points across each arm has also been identified as acceptable by the LLF.

It is considered that a signalised junction at this location is considered to be more viable than a ‘Dutch’ style roundabout in terms of balancing the flows at the junction and also balancing the benefits for sustainable transport modes and the impact on car based travel, subject to further detailed design work.

In developing the ‘Final Concept’ junction design at Kings Hedges Road, the key ideas for cycle and pedestrian segregation and single point crossings, as shown in the ‘Do Optimum’ signalised junction design, have been accommodated.

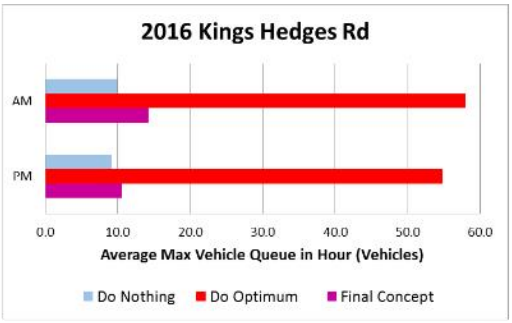
Do Optimum

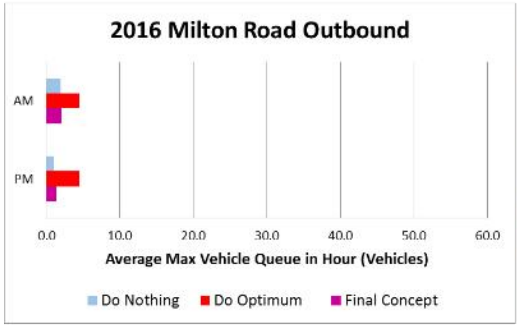


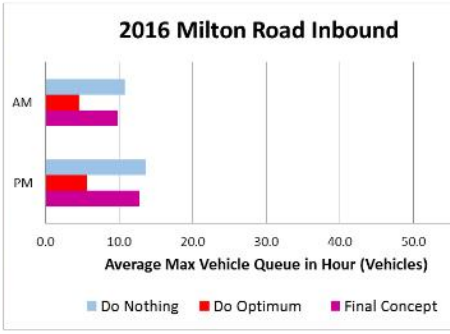
Final Concept

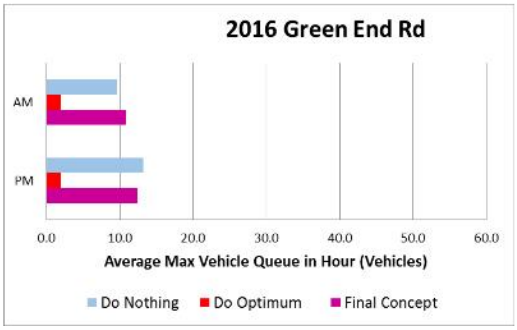
The layout of the 'Do Optimum' signalisation design fails to adequately accommodate all turning movements and needs a larger carriageway area which, in turn, reduces the space available for cycling and pedestrian movements, as indicated within the proposed 'Final Concept' junction design. However, officers believe that many of the ideas for segregating cycle movements from motorised traffic are worth further consideration as the detailed design is developed.

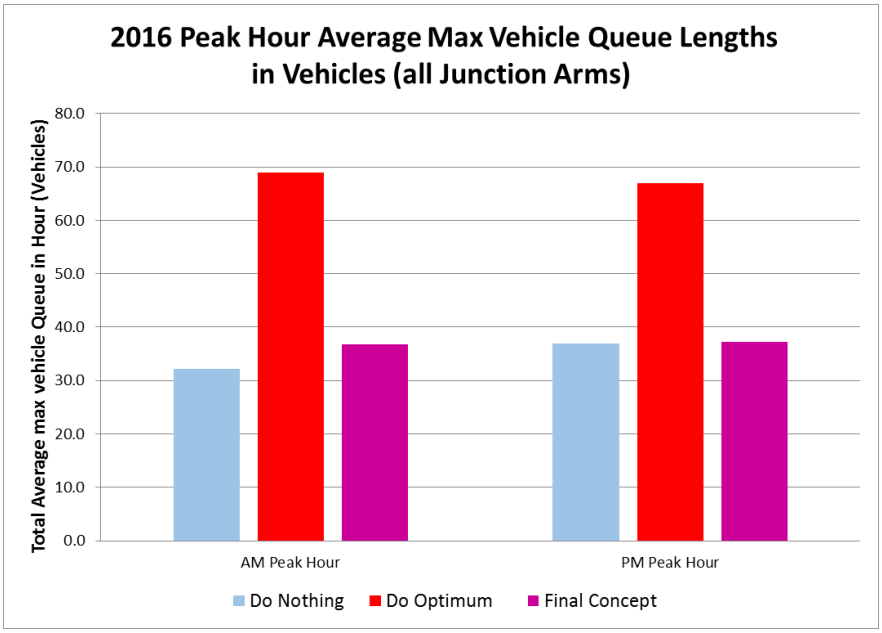
2016 'DO NOTHING', 'DO OPTIMUM AND 'FINAL CONCEPT' QUEUE LENGTH SUMMARY RESULTS



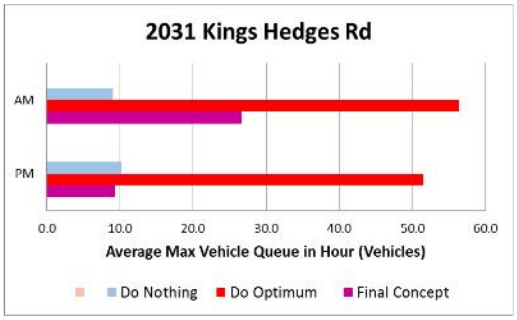


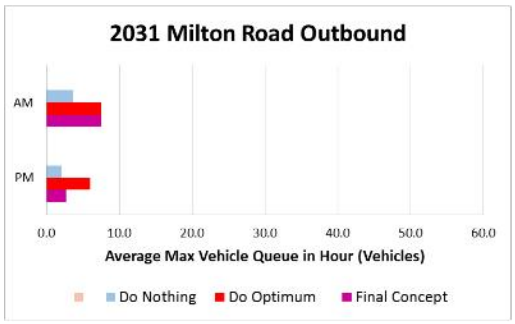


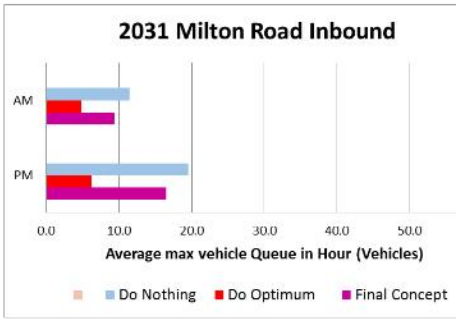


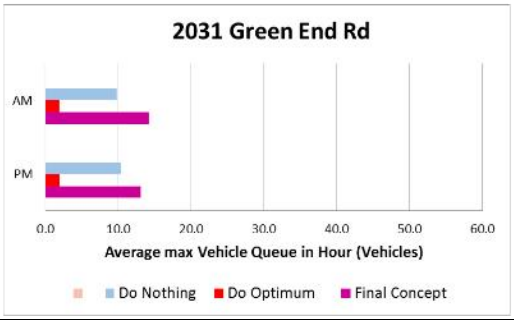


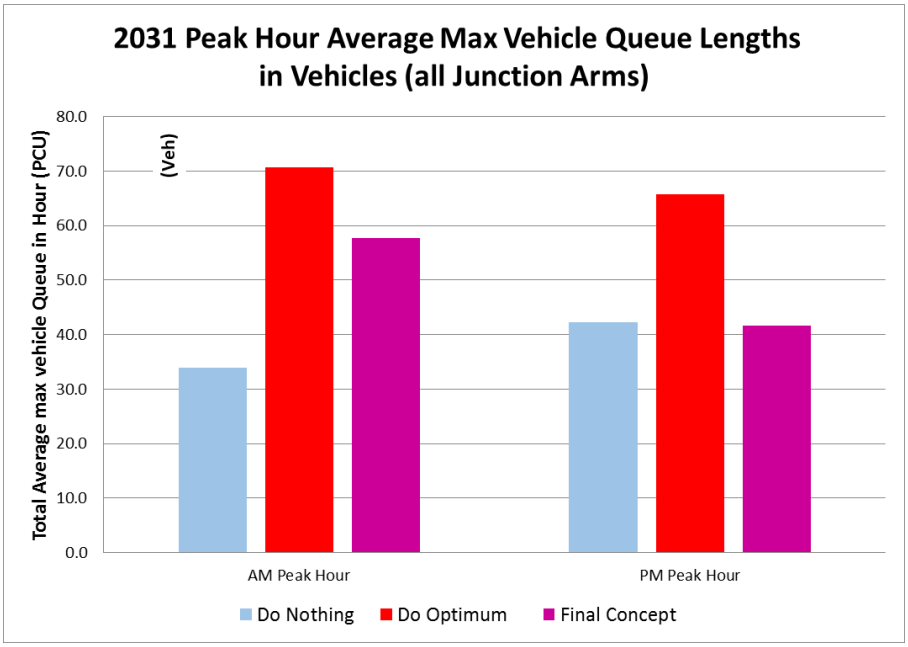
2031 'DO NOTHING', 'DO OPTIMUM AND 'FINAL CONCEPT' QUEUE LENGTH SUMMARY RESULTS











The graphs above compare the total queue length and the queue length on each arm at the King's Hedges Road Junction.

In year 2016 and year 2031, both the ‘Do Optimum’ (Dutch Style Roundabout) and ‘Final Concept’ experience an increase in overall queuing delay in the AM peak compared with the current layout, with ‘Do Optimum’ having the greatest impact which is mainly attributable to the additional queue length on King’s Hedges Road.

The additional all green pedestrian/cyclist stage in the ‘Final Concept’ scenario significantly increases the queue delays in AM peak. The queue length on King’s Hedges Road is significantly increased in the ‘Do Optimum’ scenario as the roundabout prioritises the flow on Milton Road outbound, which stops vehicles gaining priority onto the roundabout from King’s Hedges Road.

The 2031 flows increase the total queue length in the ‘Do Nothing’ scenario and the ‘Final Concept’ scenario but does not indicate a significant additional impact on the ‘Do Optimum’ scenario as the junction is already over capacity in 2016 and the extra 2031 flow cannot be released into the junction.

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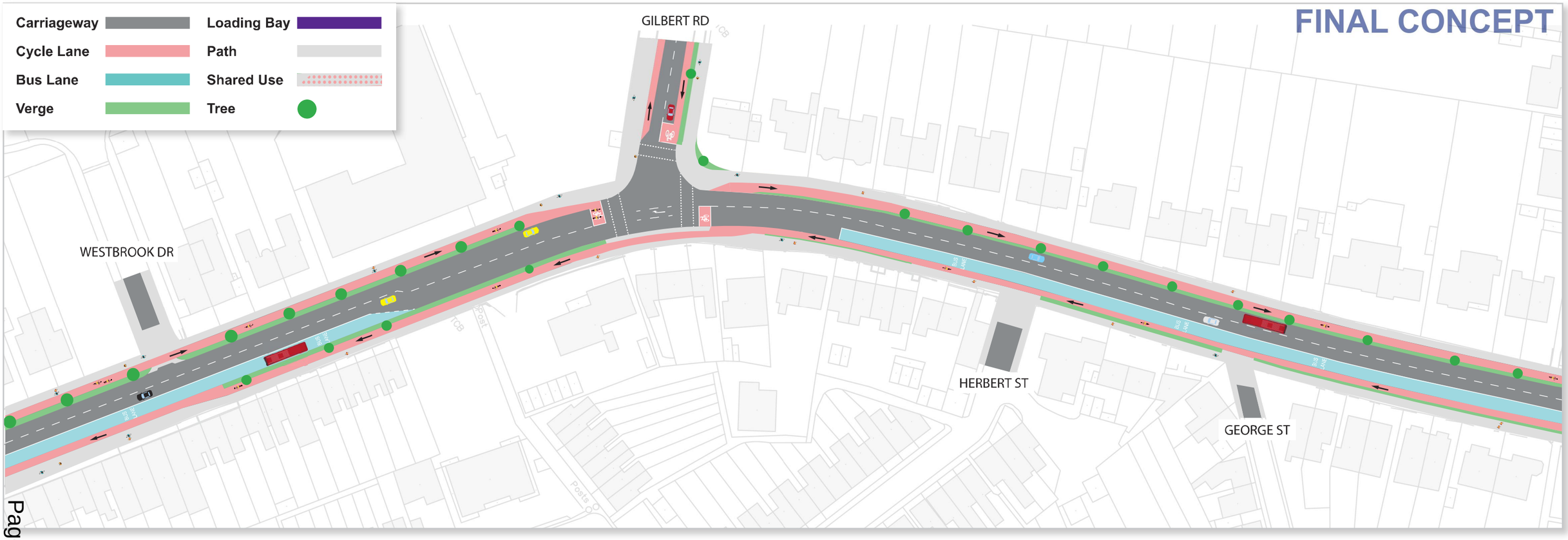
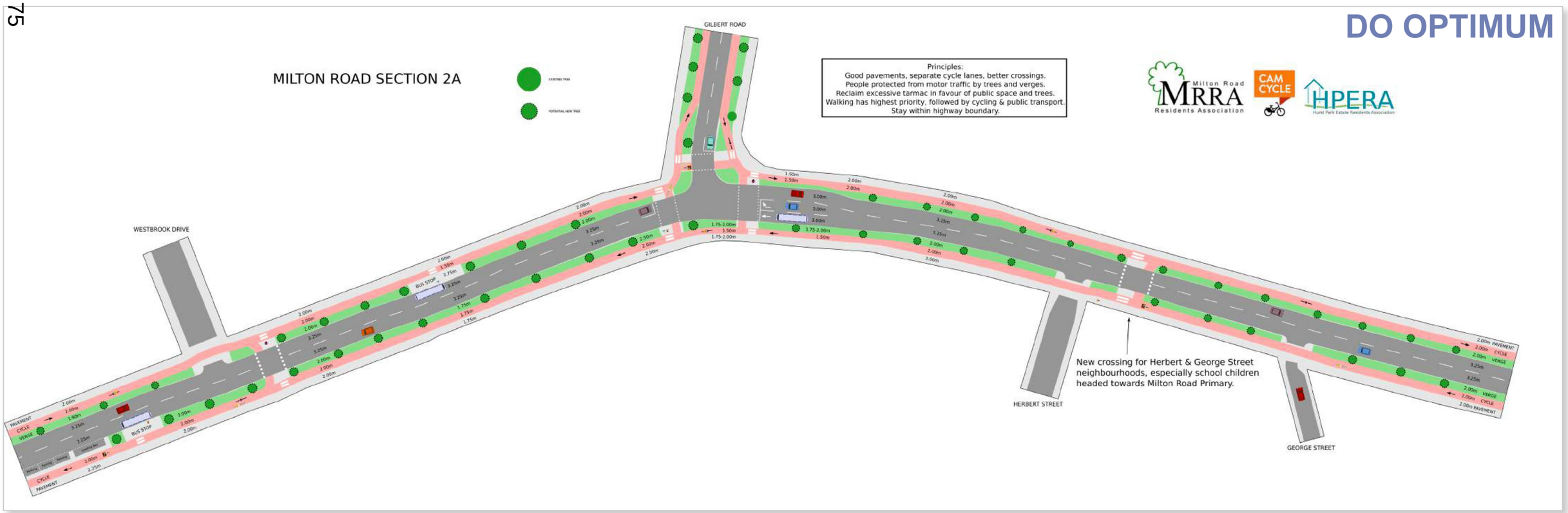

Carriageway
Loading Bay
Cycle Lane
Path
Bus Lane
Shared Use
Verge
Tree
FINAL CONCEPT
GILBERT RD
WESTBROOK DR
HERBERT ST
GEORGE ST
BUS LANE
BUS LANE


DO OPTIMUM
MILTON ROAD SECTION 2A
GILBERT ROAD
WESTBROOK DRIVE
HERBERT STREET
GEORGE STREET
Principles:
Good pavements, separate cycle lanes, better crossings.
People protected from motor traffic by trees and verges.
Reclaim excessive tarmac in favour of public space and trees.
Walking has highest priority, followed by cycling & public transport.
Stay within highway boundary.
Milton Road
MRRA
Residents Association
CAM CYCLE
HPERA
Hunt Park Estate Residents Association
BUS STOP
BUS STOP
New crossing for Herbert & George Street neighbourhoods, especially school children headed towards Milton Road Primary.

FINAL CONCEPT

MILTON ROAD SECTION 2B

(with bus entry lane to roundabout)

Features:
Separate walking and cycling paths protected by trees and verges.
Walking and cycling priority roundabout on three arms.
Roundabout with bus entry lane on Elizabeth Way arm.
Set-back crossings on roundabout of at least one bus-length.
Space for quality bus stops allowing step-free boarding and multiple doors.

Principles:
Good pavements, separate cycle lanes, better crossings.
People protected from motor traffic by trees and verges.
Reclaim excessive tarmac in favour of public space and trees.
Walking has highest priority, followed by cycling & public transport.
Stay within highway boundary.

3.25m width for carriageway lanes is more than sufficient for large vehicles like buses and lorries, and enables passing when clear.

Emergency vehicles can pass and drivers can pull onto verges if necessary.

2.0m minimum width for pavements is target goal throughout.

"Copenhagen" crossings of side roads give priority to people walking and cycling.

Walking and cycling priority "parallel crossings" on arms of the roundabout, as commonly found in the Netherlands and Northern Europe. See also: **camcycle.org.uk/newsletters/128/article11.html**

Transitional cycle lanes onto quiet residential street with no cycle lanes.

3.5m two-way cycle lane through roundabout so that riders can focus on safely crossing, not worrying about getting squeezed off path.

Use of "Cambridge" kerb to prevent kerb crashes.

Two-way cycle lane ends at Ascham Road, for school, and with crossing for anyone continuing south.

Two-way cycle lane of 3.0m is a bit small, but plausible when context is safe pavement and verge on either side, with forgiving kerbs. 3.5m would be preferable here, where possible.

Zebras across cycle lane wherever people walking need to access crossings or bus stops.

Extra set-back of orbital cycle lane so that buses and large vehicles don't block the roundabout when waiting.

Walking/cycling-priority crossings must be set back at least 1 car length from the roundabout.

Presence of bus in bus lane at roundabout-entry automatically gives precedence to bus since it blocks sight-line of any cars waiting to enter the roundabout in the left entry lane.

Elizabeth Way is an example here in this conceptual diagram but should also be considered as part of future route for non-stopping buses in a reworked public transport network.

Two-way cycle crossing so that riders from the south side can choose either arm, whichever they feel safer using, to access the two-way cycle lane.

Driver-priority crossing must be set back from roundabout at least 2 car lengths to give people walking and cycling a chance to react to movements of motor vehicles. Exits from roundabouts across driver-priority crossings must be single-lane and must calm traffic speeds using tight geometry. Entrances to roundabouts may be two lanes.

Elizabeth Way has a toucan further south, placed there for an alternative walking and cycling route through back streets.

DO OPTIMUM

FINAL CONCEPT

MILTON ROAD SECTION 3A

with "Simultaneous Green"-junction and peak-time "Queue jump" bus lane.

Principles:
Good pavements, separate cycle lanes, better crossings.
People protected from motor traffic by trees and verges.
Reclaim excessive tarmac in favour of public space and trees.
Walking has highest priority, followed by cycling & public transport.
Stay within highway boundary.

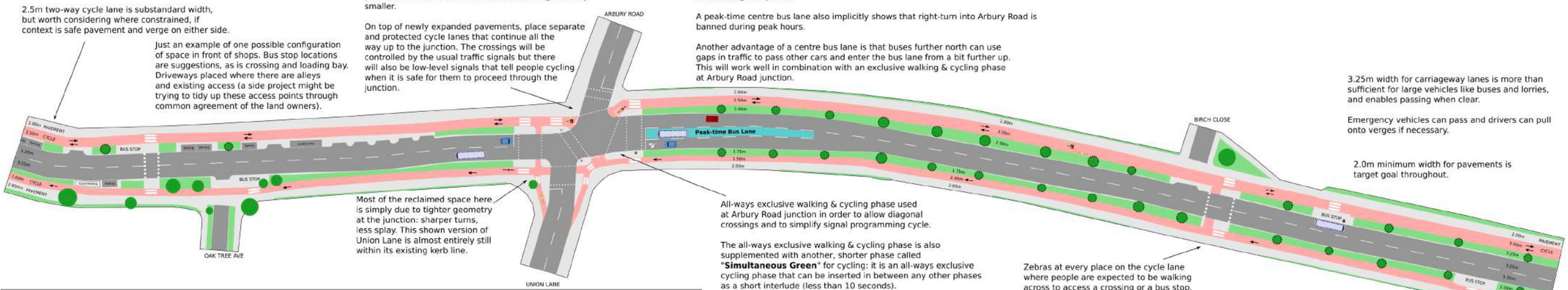
Milton Road Residents Association MRRA · CAM CYCLE · HPERA Hurst Park Estate Residents Association

Rough sketch of possible idea for reconfiguring Arbury Road junction that reclaims a great deal of open public space. First, expand pavements until there are only 2 carriageway lanes. Then, realign Union Lane so that it is squared-off, even if that means a staggered junction. All movements are still possible, but now the amount of tarmac is significantly smaller.

On top of newly expanded pavements, place separate and protected cycle lanes that continue all the way up to the junction. The crossings will be controlled by the usual traffic signals but there will also be low-level signals that tell people cycling when it is safe for them to proceed through the junction.

2.5m two-way cycle lane is substandard width, but worth considering where constrained, if context is safe pavement and verge on either side.

Just an example of one possible configuration of space in front of shops. Bus stop locations are suggestions, as is crossing and loading bay. Driveways placed where there are alleys and existing access (a side project might be trying to tidy up these access points through common agreement of the land owners).



Most of the reclaimed space here is simply due to tighter geometry at the junction: sharper turns, less splay. This shown version of Union Lane is almost entirely still within its existing kerb line.

Peak-time centre bus "queue jump" lane can be used as a right-turn lane off-peak. When bus is detected the traffic signal controller will schedule a bus early "headstart" at its next green phase.

A peak-time centre bus lane also implicitly shows that right-turn into Arbury Road is banned during peak hours.

Another advantage of a centre bus lane is that buses further north can use gaps in traffic to pass other cars and enter the bus lane from a bit further up. This will work well in combination with an exclusive walking & cycling phase at Arbury Road junction.

All-ways exclusive walking & cycling phase used at Arbury Road junction in order to allow diagonal crossings and to simplify signal programming cycle.

The all-ways exclusive walking & cycling phase is also supplemented with another, shorter phase called "**Simultaneous Green**" for cycling: it is an all-ways exclusive cycling phase that can be inserted in between any other phases as a short interlude (less than 10 seconds).

Because people cycling clear junctions quickly, and negotiate crossing paths naturally (e.g. on Midsummer Common), this short interlude "Simultaneous Green" can be used more than once each signal cycle in order to separate people cycling from motor vehicles entirely while still providing moderate waiting times.

"Simultaneous Green" is effectively a shorter version of the all-ways exclusive walking & cycling phase that can be used when there is nobody waiting to walk across the junction.

Zebras at every place on the cycle lane where people are expected to be walking across to access a crossing or a bus stop.

3.25m width for carriageway lanes is more than sufficient for large vehicles like buses and lorries, and enables passing when clear.

Emergency vehicles can pass and drivers can pull onto verges if necessary.

2.0m minimum width for pavements is target goal throughout.

Cycle lane can be narrower (down to 1.5m for one-way) for short sections such as behind bus stops, where there should also always be a Zebra.

Examples of what different phases might look like. Actual selection of durations and signal programming plan would depend upon traffic study and modelling.

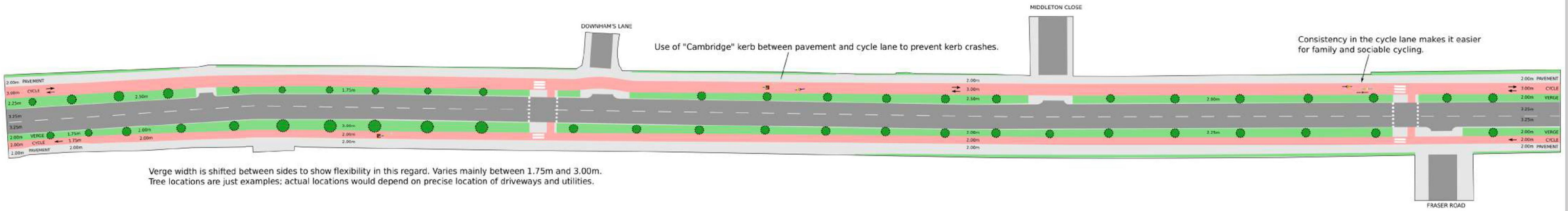
DO OPTIMUM

FINAL CONCEPT

MILTON ROAD SECTION 3B

Principles:
Good pavements, separate cycle lanes, better crossings.
People protected from motor traffic by trees and verges.
Reclaim excessive tarmac in favour of public space and trees.
Walking has highest priority, followed by cycling & public transport.
Stay within highway boundary.

Milton Road Residents Association MRRA · CAM CYCLE · HPERA Hurst Park Estate Residents Association



Verge width is shifted between sides to show flexibility in this regard. Varies mainly between 1.75m and 3.00m.
Tree locations are just examples; actual locations would depend on precise location of driveways and utilities.

DO OPTIMUM

FINAL CONCEPT

Carriageway | Loading Bay
Cycle Lane | Path
Bus Lane | Shared Use
Verge | Tree

WOODHEAD DR
RAMSDEN SQ
KENDAL WAY
COOK CL

DO OPTIMUM

Milton Road MRRA Residents Association
CAM CYCLE
HPERA Hurst Park Estate Residents Association

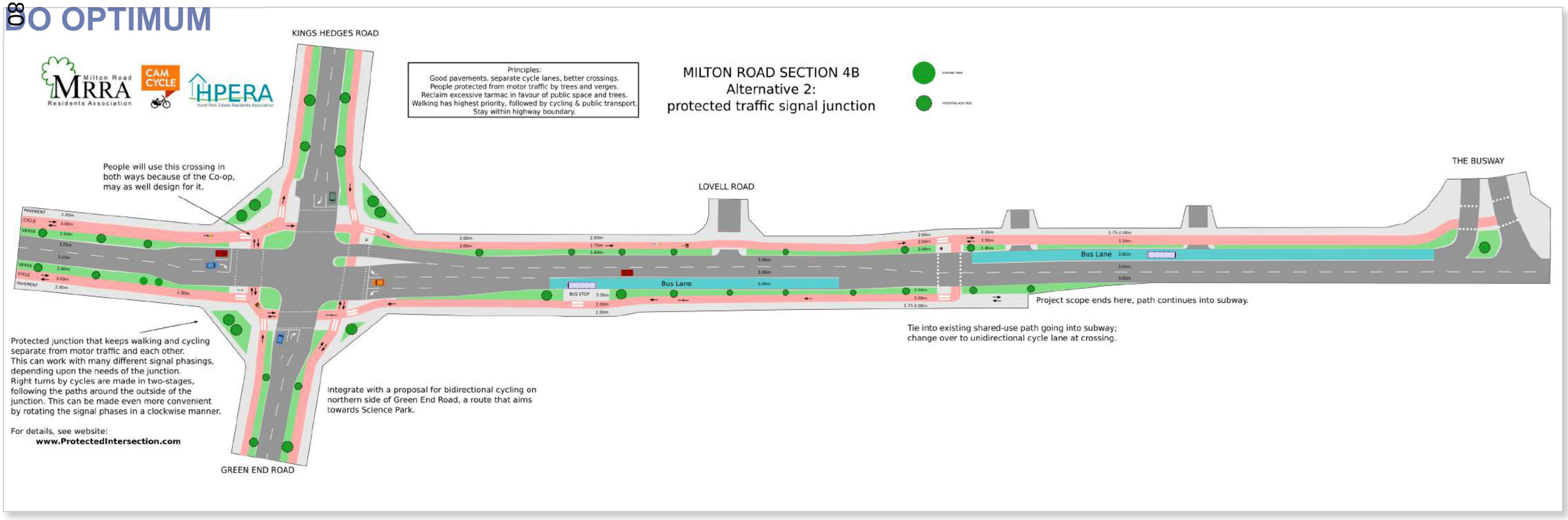
Principles:
Good pavements, separate cycle lanes, better crossings.
People protected from motor traffic by trees and verges.
Reclaim excessive tarmac in favour of public space and trees.
Walking has highest priority, followed by cycling & public transport.
Stay within highway boundary.

MILTON ROAD SECTION 4A

WOODHEAD DRIVE
RAMSDEN SQUARE
KENDAL WAY
COOK CLOSE
BUS STOP
BUS STOP

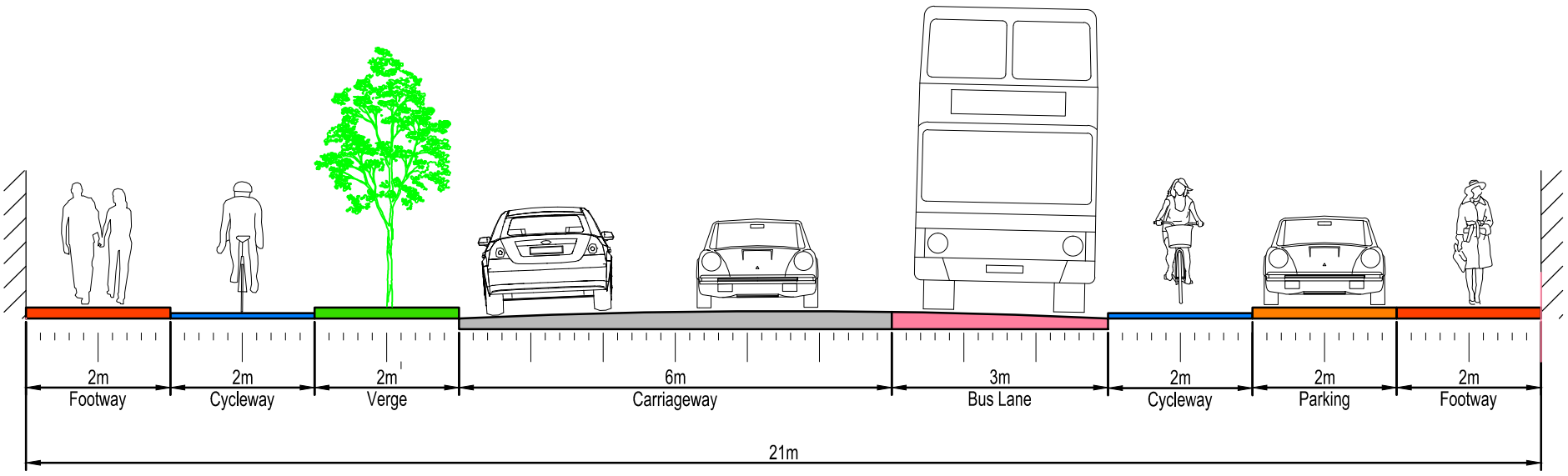
FINAL CONCEPT

DO OPTIMUM

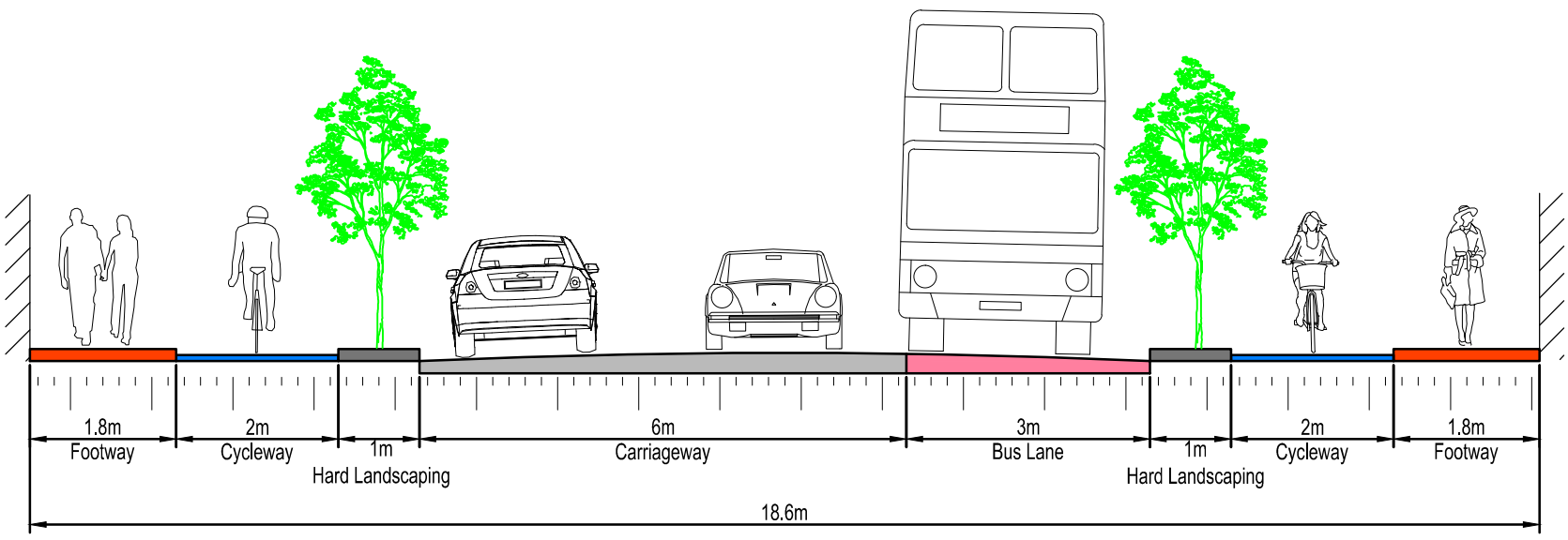


MITCHAM'S CORNER TO GILBERT ROAD
LOOKING OUTBOUND (SECTION 1)

LEAVING MITCHAM'S CORNER



GILBERT ROAD APPROACH



REV	DATE	BY	DESCRIPTION	CHK	APD
C	05/07/2017	SML	CARRIAGEWAY AMENDMENT	NDP	NDP
B	08/06/2017	LMM	CARRIAGEWAY & TREE AMENDMENTS	NDP	NDP
A	11/04/2017	LMM	FIRST ISSUE	NDP	NDP

SCALE @ A3: NOT TO SCALE | CHECKED: NDP | APPROVED: NDP

DRAWING STATUS: FOR INFORMATION ONLY

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Tel: +44 (0)1223 558 050 Fax: +44 (0)1223 558 051
www.wspgroup.com www.pbworld.com

PROJECT: MILTON ROAD CORRIDOR

TITLE: POTENTIAL CROSS SECTION
MILTON ROAD / MITCHAM'S CORNER

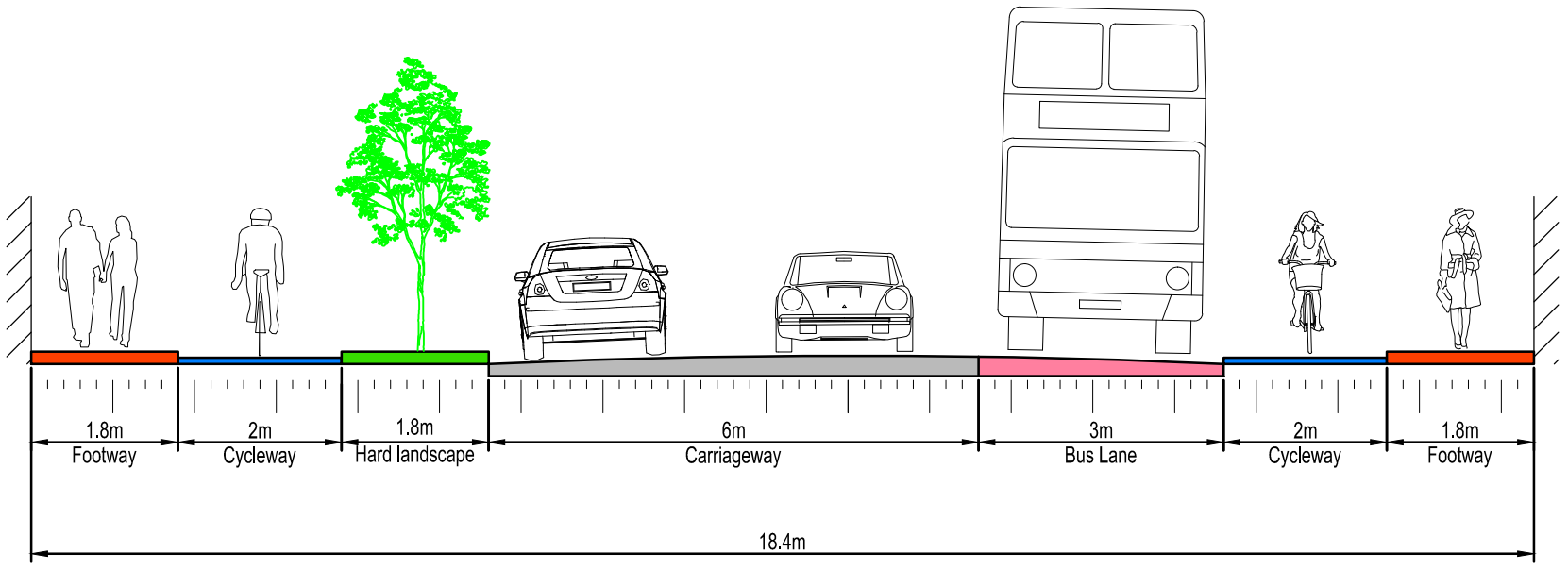
CLIENT: CAMBRIDGESHIRE COUNTY COUNCIL

CAD FILE:	DESIGN-DRAWN:	DATE:
2012-SK-050-054	LMM	05/07/2017

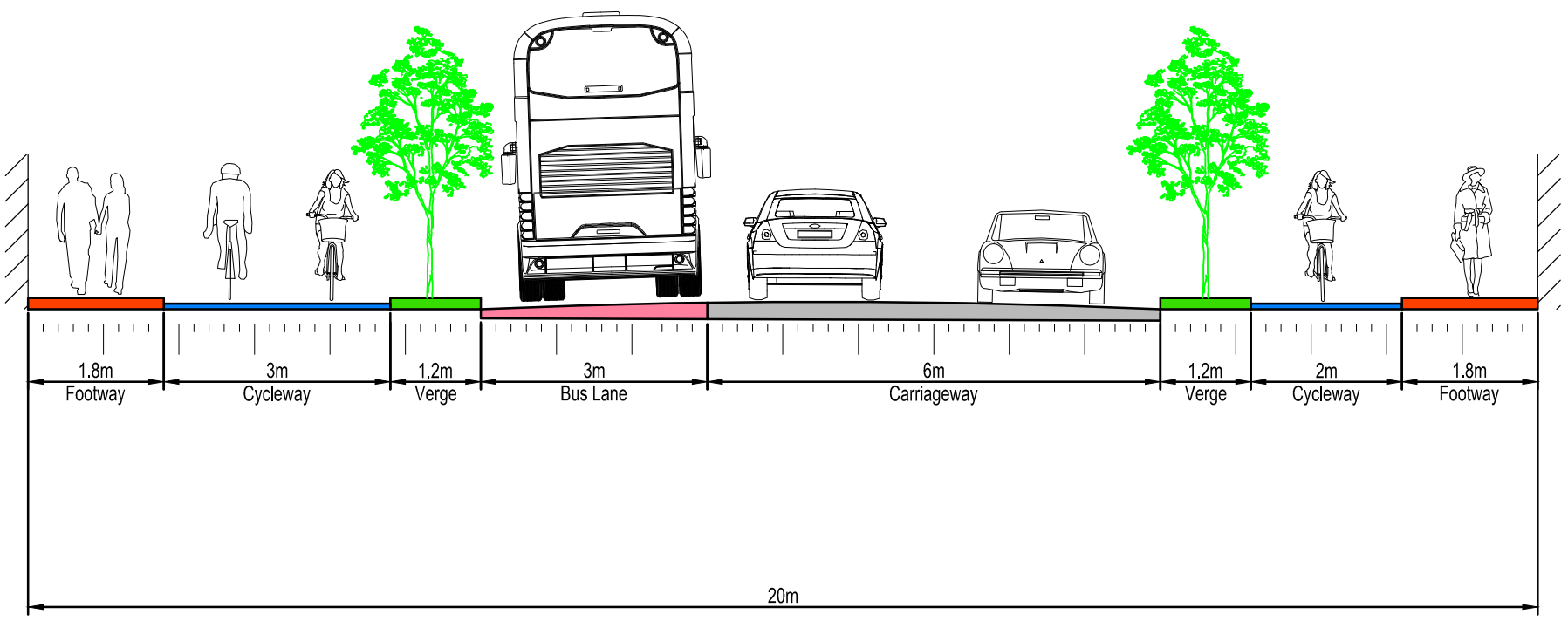
PROJECT No:	DRAWING No:	REV:
70012012	2012-SK-050	C

GILBERT ROAD TO ELIZABETH WAY
LOOKING OUTBOUND (SECTION 2&3)

GILBERT ROAD APPROACH



ELIZABETH WAY APPROACH



REV	DATE	BY	DESCRIPTION	CHK	APD
C	03/07/2017	SML	TWO WAY CYCLE LANE	NDP	NDP
B	08/06/2017	LMM	CARRIAGEWAY & TREE AMENDMENTS	NDP	NDP
A	11/04/2017	LMM	FIRST ISSUE	NDP	NDP

SCALE @ A3: NOT TO SCALE | CHECKED: NDP | APPROVED: NDP

DRAWING STATUS: FOR INFORMATION ONLY

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PROJECT: MILTON ROAD CORRIDOR

TITLE: POTENTIAL CROSS SECTION
MILTON ROAD / HERBERT STREET

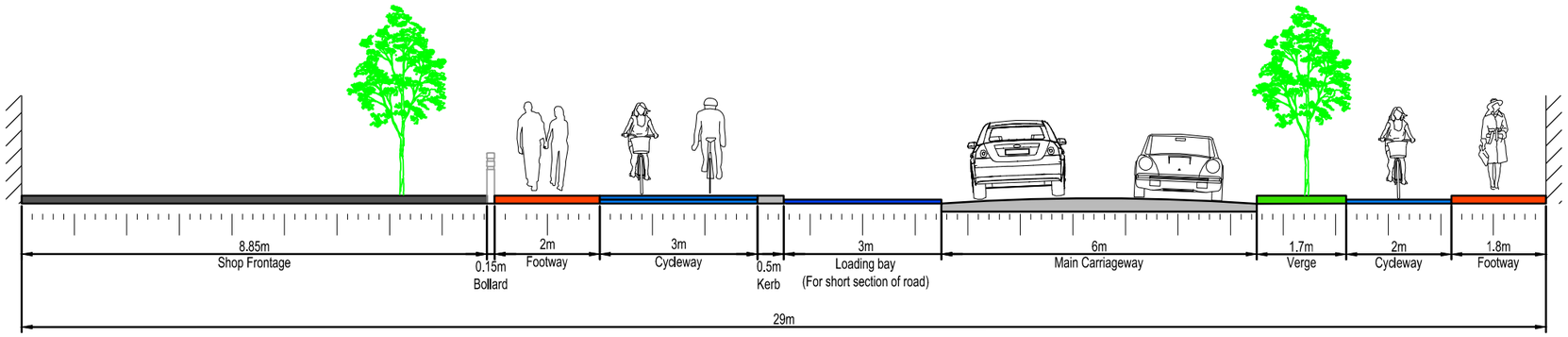
CLIENT: CAMBRIDGESHIRE COUNTY COUNCIL

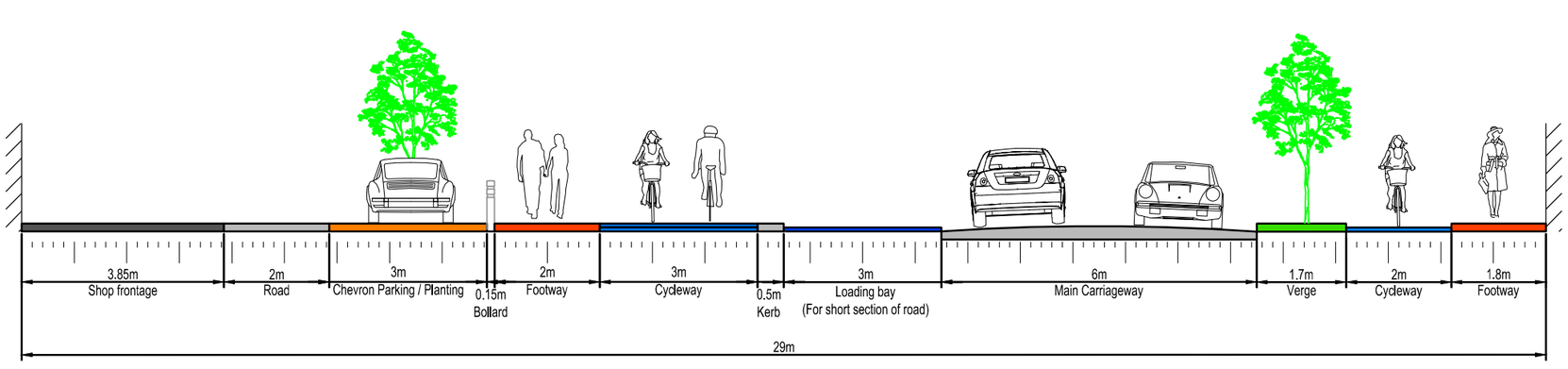
CAD FILE:	DESIGN-DRAWN:	DATE:
2012-SK-050-054	LMM	05/07/2017

PROJECT No:	DRAWING No:	REV:
70012012	2012-SK-051	C

DO NOT SCALE

ELIZABETH WAY TO ARBURY ROAD
LOOKING OUTBOUND (SECTION 4)





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B	08/06/2017	LMM	CARRIAGEWAY & TREE AMENDMENTS	NDP	NDP
A	11/04/2017	LMM	FIRST ISSUE	NDP	NDP

DRAWING STATUS: FOR INFORMATION ONLY

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CLIENT: CAMBRIDGESHIRE COUNTY COUNCIL

ARCHITECT: -

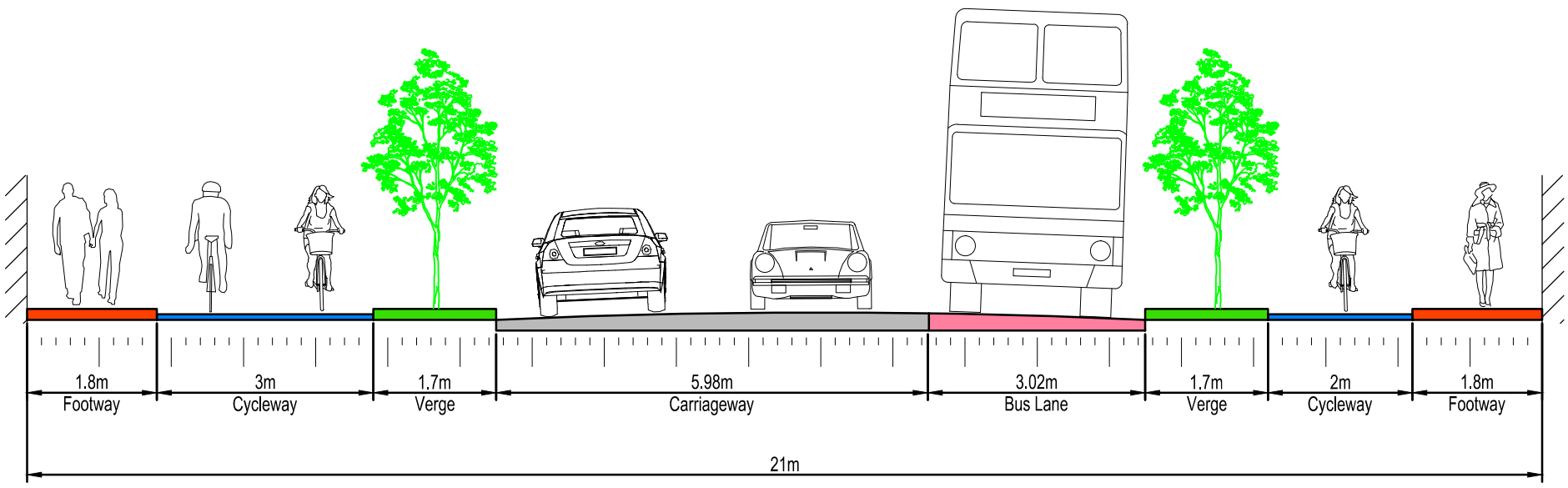
PROJECT: MILTON ROAD CORRIDOR

TITLE: POTENTIAL CROSS SECTION MILTON ROAD / ELIZABETH WAY

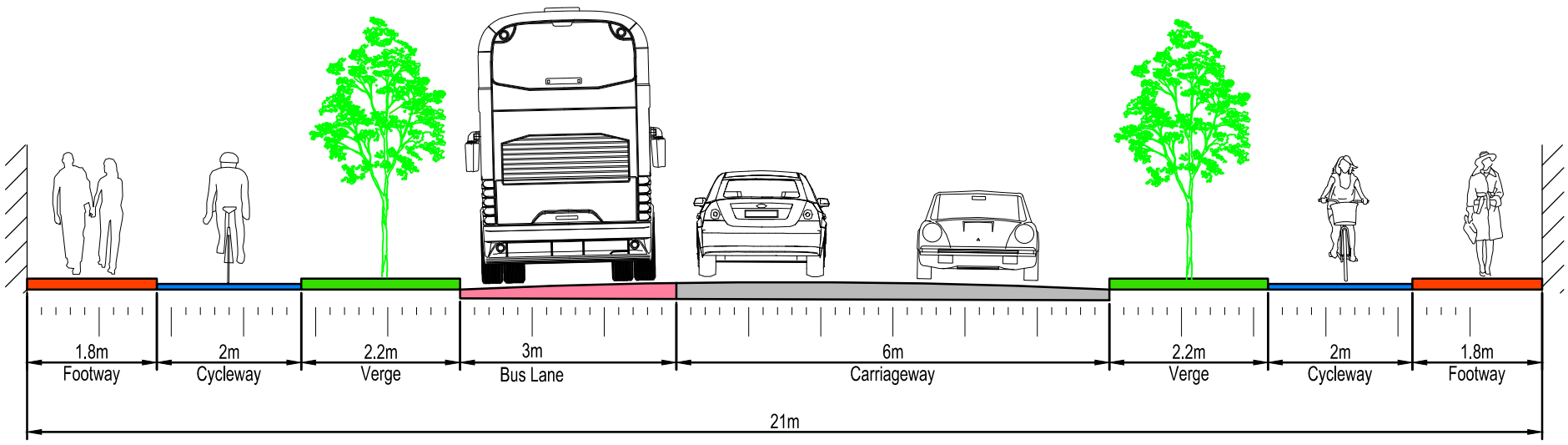
SCALE @ A3:	CHECKED:	APPROVED:
NTS	NDP	NDP
CAD FILE:	DESIGN-DRAWN:	DATE:
2012-SK-050-054.DWG	LMM	05/07/2017
PROJECT No:	DRAWING No:	REV:
70012012	2012-SK-052	C

ARBURY ROAD TO KINGS HEDGES ROAD
LOOKING OUTBOUND (SECTION 5&6)

SOUTH OF WOODHEAD DRIVE



NORTH OF RAMSDEN SQUARE



REV	DATE	BY	DESCRIPTION	CHK	APD
C	03/07/2017	SML	TWO WAY CYCLE LANE	NDP	NDP
B	08/06/2017	LMM	TREE AMENDMENTS	NDP	NDP
A	11/04/2017	LMM	FIRST ISSUE	NDP	NDP

SCALE @ A3: NOT TO SCALE | CHECKED: NDP | APPROVED: NDP

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PROJECT: MILTON ROAD CORRIDOR

TITLE: POTENTIAL CROSS SECTION
MILTON ROAD / DOWNHAMS LANE

CLIENT: CAMBRIDGESHIRE COUNTY COUNCIL

CAD FILE:	DESIGN-DRAWN:	DATE:
2012-SK-050-054	LMM	05/07/2017

PROJECT No:	DRAWING No:	REV:
70012012	2012-SK-053	C

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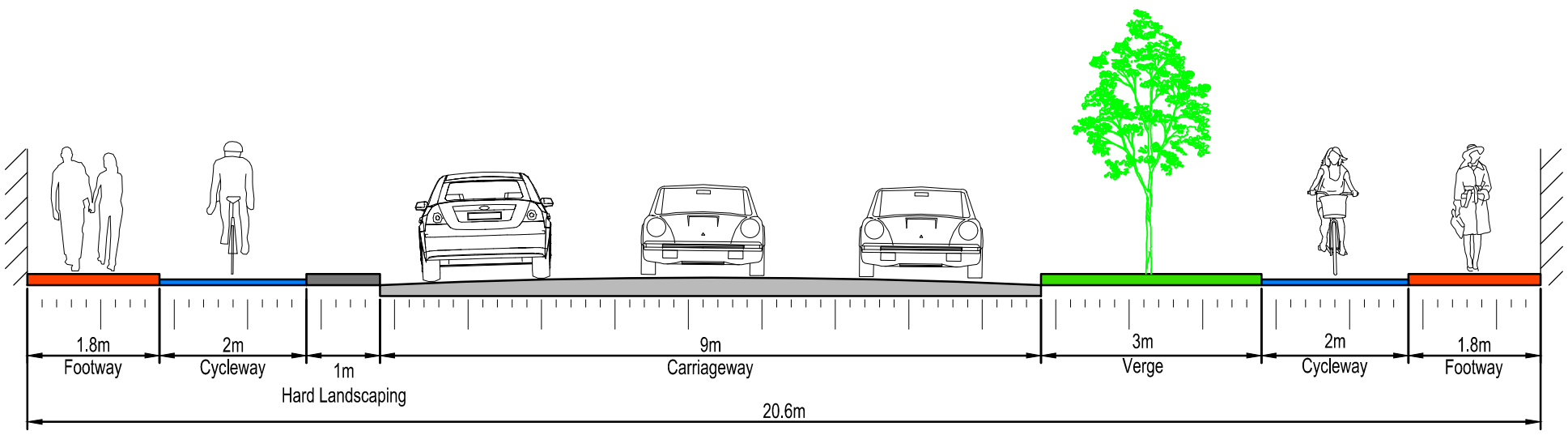
NORTH OF KINGS HEDGES ROAD
LOOKING OUTBOUND (SECTION 7)

SOUTH OF LOVELL ROAD



REV	DATE	BY	DESCRIPTION	CHK	APD
C	05/07/2017	SML	CARRIAGEWAY AMENDMENTS	NDP	NDP
B	08/06/2017	LMM	CARRIAGEWAY & TREE AMENDMENTS	NDP	NDP
A	11/04/2017	LMM	FIRST ISSUE	NDP	NDP

SCALE @ A3: NOT TO SCALE
CHECKED: NDP
APPROVED: NDP

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www.wspgroup.com www.pbworld.com

PROJECT: MILTON ROAD CORRIDOR

TITLE: POTENTIAL CROSS SECTION
MILTON ROAD / LOVELL ROAD

CLIENT: CAMBRIDGESHIRE COUNTY COUNCIL

CAD FILE: 2012-SK-050-054
DESIGN-DRAWN: LMM
DATE: 05/07/2017

PROJECT No: 70012012
DRAWING No: 2012-SK-054
REV: C

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Current View	‘Final Concept’
Outbound view between Gilbert Road and Ascham Road	
	
Outbound view Between Ascham Road and Elizabeth Way roundabout	

Outbound view north of Downhams Lane

Outbound view north of Ramsden Square

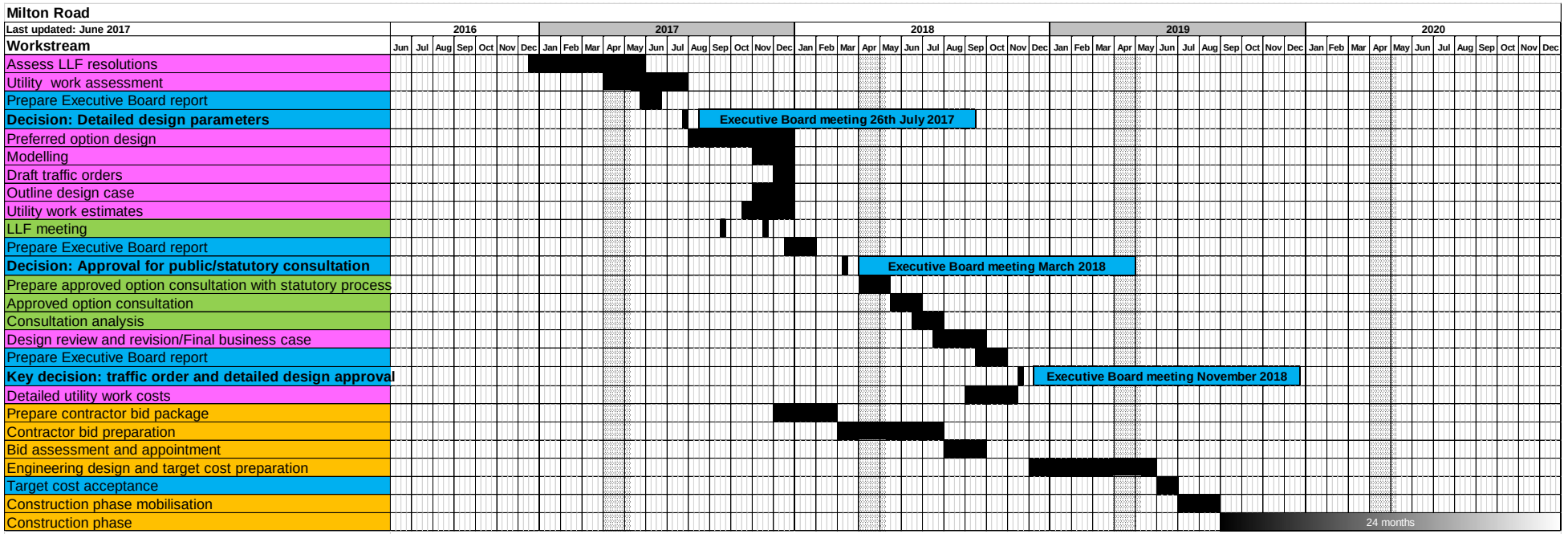
Appendix F
SUMMARY OF CHANGES IN BUS LANE LENGTHS

BUS LANE DIRECTION	Current	Final Concept	Difference
OUTBOUND	**110 metres**	**430 metres**	**+320 metres**
INBOUND	**1015 metres**	**885 metres**	**-130 metres**
TOTAL	**1125 metres**	**1315 metres**	**+190 metres**

Appendix G
TREE PLANTING DESIGN PRINCIPLES

Tree planting (based on TDAG guidance)	• Trees should not be planted any closer to the carriageway than 0.75m • No grass verge to be less than 1.5m wide if it contains tree planting • Verges between 1.0m and 1.5m wide should be grassed and elevated • Verge areas less than 1.0m wide to be hard paved. If the area is to accommodate tree planting it should be installed in the paving with root cell system beneath • Consideration should be given to linking and extending the tree pits into larger units parallel to and beneath the cycleway/footway using either structural soils or root cell systems • No verge to be planted with shrubs unless it is a rain garden, or where it is in an area not vulnerable to tramping, e.g. against a boundary fence • Tree pits to be combined with rain gardens and planting • Grass verges/rain gardens should be elevated using double kerbs to protect from vehicle overrun • Tree species should be chosen on the basis that they will reach maturity, i.e. reach their natural height and spread without requirement to significantly prune in the future • Tree species should be medium sized and capable of reaching up to 15m in the likely growing conditions they will find themselves in. • Large tree species 20m plus at maturity should be avoided • There should be at least 2, and no more than 3 species in the scheme.

Appendix H
REVISED PROJECT TIMELINE



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GREATER CAMBRIDGE PARTNERSHIP

Growing and sharing prosperity

Delivering our City Deal

Report To:	Greater Cambridge Partnership Executive Board	26 July 2017
Lead Officer:	Niamh Matthews – Strategic Programme and Commissioning Manager	

Quarterly progress report

Purpose

1. An update for Executive Board members on progress across the Greater Cambridge Partnership (GCP) programme since the last report in March 2017. The report covers:

   (a) 2016/17 end of year financial outturn report
   (b) Financial monitoring May 2017
   (c) Six-monthly report on Smart Cambridge
   (d) Update on the independent economic assessment panel
   (e) Update on the implementation of the Mouchel report recommendations
   (f) The Executive Board forward plan of decisions

Recommendations

2. The Executive Board is recommended to:
   (a) Approve a net increase in the operational budget of £104k to be funded from drawing additional funding from the New Homes Bonus resource [Para. 3-5].
   (b) Approve an increase of the budget for the independent economic assessment panel work by £30k from drawing additional funding from the New Homes Bonus resource [Appendix 4].
   (c) Delegate authority to the Interim Chief Executive, in consultation with the Chairperson of the Executive Board and the Economy and Environment Portfolio Holder, to sign off the Locality Evaluation Framework and Outline Evaluation Plan [Appendix 4].

Programme finance overview (to end of May 2017)

Funding type	2017/18 budget (£000)	Expenditure to date (£000)	Forecast outturn (£000)	Forecast variance (£000)	Status*
Capital – Grant (see 'transport' section for further details')	11,095	842	9,802	-1,293	
Revenue – New Homes Bonus	4,963	248	5,067	+104	

**Please note, RAG explanations on page 6 of this report*

Operating Budget – New Homes Bonus

3. In January 2017 the Executive Board agreed that an interim Chief Executive should be appointed for a six-to-nine month period in order to significantly increase leadership capacity across the programme.

4. It is clear that the additional leadership capacity needs to be maintained in order to ensure we keep pace on delivery and programme momentum.

5. Having consulted with the leaders and Chief Executives of the three Local Authorities the Section 151 Officer has used his delegated decision making authority to extend this assignment to the end of the current financial year. The cost of the extension is £144k. £40k has been identified within the current base operations budget. To fully meet costs, the Board is asked to approve a net increase of £104k, funded from New Homes Bonus resource.

Housing

"Accelerating housing delivery and homes for all"

Indicator	Target	Progress	Status	Long-term target	Timing	Anticipated delivery**	Status
Housing Development Agency – new homes completed (2016/17)	250	274		N/A – ongoing target of **average 250 units per year**			
Delivering 1,000 additional affordable homes (On rural exception sites and 5 year land supply sites in the rural area)	N/A – no annualised target			1,000	2031	792	

**Based on housing commitments as at 19 June 2017

6. Further detail on the activities and plans of the Housing Development Agency can be found in the following documents:

   (a) Annual Review 2016/17: https://www.cambridge.gov.uk/sites/default/files/hda_annual_review_2016.17_0.pdf
   (b) Business Plan 2017/18: https://www.cambridge.gov.uk/sites/default/files/hda_business_plan_2017_18_1.pdf

Delivering 1,000 additional affordable homes

7. The table above shows that it is already anticipated on the basis of decisions on specific planning applications that 792 additional affordable homes will be completed towards the target of 1,000 by 2031, consistent with the approach to monitoring agreed by the Executive Board in September 2016. In practice this means that we already expect to be able to deliver 79% of the target on the basis of current decisions alone. However, this is shown as Amber because the projection for practical reasons is drawn only from those sites with planning permission or with a resolution to grant planning permission. The profile of these sites is shown in the graph below.

8. Additional sites will continue to come forward, providing additional affordable homes that will count towards this target. However, due to the nature of rural exception sites and windfall sites these cannot be robustly forecast up to 2031. Historically, there is good evidence of delivering rural exception sites at a rate of around 50 dwellings per year, and therefore we can be confident that the target will be achieved.

Towards 2050 – Strategic Planning & Transport Framework

9. The GCP sponsored project to establish a context for the next joint Local Plan is being reviewed in the context of Combined Authority aspirations. The retained consultant for the project, Vincent Goodstadt, and the Joint Planning Unit are continuing to participate in the economic modelling being undertaken by the University of Cambridge with Cambridge Ahead, which will result in the development of potential future growth scenarios for the future. As the programme for the Non-Statutory Spatial Plan, and the role of Greater Cambridge in the development of that strategy becomes more clearly defined under the leadership of the Combined Authority Strategic Planning Portfolio Holder Cllr Herbert, the 'local' expression of a long term strategy for Greater Cambridge will become clearer and officers expect to report later in the year on a re-defined project outline.

Skills

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

Indicator	Target/ profile	Progress	Status
Employability events supported for 11-16 year olds	95	119	
Employability events supported in Primary Schools	0	11	
Employability events supported for 16-18 year olds	27	43	
Engaging in briefings about work experience	16	15	
Young people engaged in briefings about work experience	1,000	1,791	
Employers using STEP UP website to connect to schools	100	55	
Schools using STEP UP website to connect to employers	22	18	
Providing information on the local labour market	8	18	

September 2015-April 2017

STEP UP website

10. The LEP and Cambridge Ahead are undertaking a review of why usage of the STEP UP website (www.timetostepup.co.uk) has not been as successful as was hoped. This is an online platform that is designed to assist employers and schools to connect, and has not impacted on the overall level of engagement. The review of its usage is assessing if the usage levels are a result of the design of the website, or simply that schools and businesses are not keen to connect via this medium. This will be included in the final evaluation.

Apprenticeships

11. The total number of apprenticeships in Greater Cambridge in the 2015/16 academic year was 1,550 – **an 18% increase against the 2014/15 total of 1,310**. Whilst we can't directly relate the increase solely to GCP activity, the increase does correlate with the start of GCP's activity on skills. This growth is reflected across all levels of apprenticeship: higher, advanced and intermediate.

12. The Board continues to acknowledge the complex and challenging local skills landscape and wants to ensure that any future activity is specifically targeted on adding value to current delivery across the partnership area. Through the task and finish group process the Board is reviewing the current GCP activity on skills to make sure future activity is delivered in partnership with local stakeholders and delivers specifically targeted outputs that add value and do not duplicate current activity.

Smart

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

Project	Target completion date	Forecast completion date	Status
Establishment of an Intelligent City Platform (ICP)	Completed		
ICP Early Adopters	Autumn 2017	December 2017	
Digital wayfinding at Cambridge Station	TBC	TBC	
First steps to Intelligent Mobility	Completed		
Phase 2	2020	2020	

Digital wayfinding at Cambridge Station

13. As described in the extended report in Appendix 3, progress has been made including the development of a brief for self-service screens and the identification of sites and Section 106 funding. The stakeholders required to progress this initiative have been identified, and next steps are to convene that group to sign off the brief and agree a schedule. At this time, there is no agreed schedule and this is the reason for the 'red' status.

Transport

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

Project		Delivery stage	Target completion date	Forecast completion date	Status
Tranche 1 schemes					
Histon Road bus priority		Design	2022	2022	
Milton Road bus priority		Design	2021	2021	
Chisholm Trail cycle links	Phase 1	Design	2018	2018	
	Phase 2	Design	2020	2020	
Cambourne to Cambridge / A428 Corridor		Design	2023	2023	
City Centre Capacity Improvements ["City Centre Access Project"]		Design	TBC	TBC	N/A
A1307 Bus Priority		Design	2020	2020	
Cross-city cycle improvements	Fulbourn / Cherry Hinton Eastern Access	Construction	2018	2018	
	Hills Road / Addenbrooke's corridor	Construction	2017	2017	
	Links to East Cambridge & NCN11 / Fen Ditton	Construction	2017	2018	
	Arbury Road corridor	Construction	2018	2018	
	Links to Cambridge North Station & Science Park	Construction	2018	2018	
A10 cycle route (Shepreth to Melbourn)		Completed			
2020+ scheme development					
Western Orbital		Preferred option design			
A10 North Study & initial works		Options development			
Greenways		Options development			
South Cambridgeshire rural hubs		Options development			

Delivery

14. The start date for the Links to East Cambridge & NCN11 / Fen Ditton scheme has had to be moved from September 2017 to January 2018 to enable the contractors, Skanska, to appropriately resource all five cross-city cycle improvement schemes, and to ensure that road space booking is appropriately managed to avoid having works on a large number of major routes into Cambridge at the same time. On that basis, it is recommended that the target date is revised from 2017 to 2018 as part of facilitating effective delivery of the cross-city cycle improvements as a whole.

Transport finance overview (to end May 2017)

Project	Total Budget £'000	2017-18 Budget £'000	Expenditure to date £'000	Forecast Spend – Outturn £'000	Forecast Variance – Outturn £'000	2017-18 budget status
Histon Road Bus Priority	4,280	200	1	163	-37	
Milton Road Bus Priority	23,040	800	22	242	-558	
Chisholm Trail	8,400	2,025	85	1,525	-500	
Cambourne to Cambridge / A428 Corridor	59,040	1,200	70	1,200	0	
Programme management & Early scheme development	4,950	950	65	950	0	
A1307 Bus Priority	39,000	1,000	25	1,000	0	
Cross-City Cycle Improvements	8,000	3,537	477	3,300	-237	
Western Orbital	5,900	600	70	600	0	
A10 North Study & initial works	2,600	783	21	783	0	
A10 cycle route (Shepreth to Melbourn)	550	0	6	39	+39	
City Centre Access Project	8,045	1,426	48	1,426	0	
Total	**163,805**	**12,521**	**890**	**11,228**	**-1,293**	

15. The A10 cycle route (Shepreth to Melbourn) scheme opened in March and is slightly under overall scheme budget. The finance table shows £39k expenditure in 2017-18 against a £0 budget for this year, which is the result of delay in payment of a final bill that was expected to finalised in 2016-17, but does not constitute an over-spend on the overall project

Strategic Partnership working

16. GCP Board members and officers have very strong relationships with Government agencies, meet with Network Rail on a regular basis and have met the Chief Executive of Highways England on a number of occasions this year. GCP is working closely with HE across all its transport schemes to ensure that local and national investment is fully aligned to deliver and maximise benefits for local people.

Improving the M11

17. The M11 between junctions 10-14 has for some time being considered in need of improvement, to address both safety and congestion issues. Encouragingly, Highways England has also recognised this need in the publication of their Route Strategy: London-Leeds. Initial proposals which are being considered include a 'Technology Upgrade' for this section. The Greater Cambridge Partnership is committed to providing evidence that shows why this part of the M11 would benefit from a fuller upgrade to a 'Smart Motorway' with use of the hard shoulder as an additional third lane in peak times. A fuller report will come to the September Board including a proposed response to Highways England. The timing is aimed to feed into the HE's development of the Road Investment Strategy for the period 2020-25 which they will be submitting to Government (Dept for Transport) in late autumn prior to wider consultation on the priorities.

18. In addition, officers are working with Highways England on junction improvements for this stretch of the M11 and the Board will also be updated on the outcome of this work in September.

Mouchel report update (see Appendix 6 for a full update)

19. Out of 40 actions within the Mouchel review action plan, 38 actions have commenced. One of the two remaining actions is not scheduled to start until later this year (recruitment of a permanent Transport Director – action 7). The refresh of the transport strategy (action 24) cannot start until completion of a Strategic Economic Plan refresh (action 26), and is scheduled to start in spring 2018. Thus all percentages below are based on 38 actions. Out of the 38 actions, 26 (6#8.4%) have been completed or are progressing as expected and progress is shaded blue or green to show this. There are 10 (26.3%) actions which are on track but may not yet be fully embedded as business as usual. These are shown as shaded yellow for progress. All 7 actions are expected to progress as expected and/or be completed by the time of the next update.

20. There are just 2 actions (5.2%) which have been delayed (shaded amber for progress). Action 20 was delayed as a decision was taken to use an external critical friend to review the guide at no cost to the GCP. The guide has since been completed and disseminated but the embedding into practice was as a result delayed. The evidence base for action 26, (the refresh of the Strategic Economic Plan by the LEP) has been taken to the June LEP Board rather than the March Board, which resulted in a small delay for the completion of this action. This delay will as a result affect the start of the transport strategy refresh (action 24).

21. 9 actions (24%) show resulting impact that is meeting expectations and are shaded green in the plan. There are 19 actions (50%) where impact is heading in the right direction but has not yet been fully realised at this stage, (shaded yellow), and 9 actions (24%) where the impact can only just start to be seen and so is shaded amber. There is just 1 action (2%) where impact is not yet being realised because the action has only just been completed (LEP GCP liaison post holder in place), and therefore we would not yet expect to see impact. These calculations do not include the two actions that have not yet commenced as detailed above.

Report Author: Aaron Blowers – Greater Cambridge Partnership Project Manager

Aaron.Blowers@cambridgeshire.gov.uk

END OF REPORT

Note to reader – RAG Explanations

Finance tables

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

Indicator tables

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

Project delivery tables

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

APPENDICIES

Appendix 1: 2016/17 End-of-year financial outturn report

Appendix 2: Financial monitoring May 2017

Appendix 3: Six-monthly report on Smart Cambridge

Appendix 4: Update on the independent economic assessment panel

Appendix 5: Executive Board forward plan

Appendix 6: Update on the implementation of the Mouchel report recommendations

Greater Cambridge Partnership Financial Outturn 2016/17

1. **Programme Budget**

1.1 A summary of the expenditure for 2016/17 against the budget for the year is set out in the table below:-

Project Description	Total Budget £'000	2016-17 Budget £'000	2016-17 Expenditure £'000	Variance £'000
Histon Road Bus Priority	4,280	280	181	-99
Milton Road Bus Priority	23,040	297	238	-59
Chisholm Trail	8,400	1,040	679	-361
Cambourne to Cambridge / A428 Corridor	59,040	500	1,485	+985
Programme management & Early scheme development	10,450	1,940	781	-1,159
City Centre Capacity Improvements	3,000	300	566	+266
A1307 Bus Priority	39,000	500	175	-325
Cross-City Cycle Improvements	8,000	900	864	-36
Western Orbital	5,900	600	416	-184
A10 North Study	2,600	500	72	-428
A10 cycle route (Shepreth to Melbourn)	550	550	511	-39
Total	**164,260**	**7,407**	**5,968**	**-1,439**

1.2 The explanation for variances is set out below.

1.3 Histon Road – Bus Priority

The focus of attention due to staff resources has been on the Milton Road Scheme which has led to the under spend in 2016/17. Revised date to review scheme design is now set for 20th September 2017 Executive Board. The current delivery plans assume two further rounds of consultation in early 2019 and mid 2019; public consultation on the detailed designs followed by a statutory consultation on draft traffic regulation orders.

1.4 Milton Road – Bus Priority

Delays in gaining agreement to the scheme has resulted in a slight underspend. Revised date to review scheme design is now set for 26th July 2017 Executive Board. The current delivery plans assume two further rounds of consultation in mid-2018 and late 2018; public consultation on the detailed designs followed by a statutory consultation on draft traffic regulation orders.

1.5 Chisholm Trail:

Lower than expected spend in 2016/17 was as a result of a delayed planning application for Phase One of the scheme. A delay in planning impacted on the ability to finalise land deals and to let the construction contract.

The spend profile was regularly reviewed and amended, and this was reported to the Board via finance reports. In December 2016 the spend profile was reduced from £1,040,000 to £840,000, and then in January 2017 it was reduced further to £580,000, so by end of financial year the actual spend achieved was higher reflecting additional resources being brought in to progress the scheme as much as possible whilst planning was still being resolved.

Phase One between Cambridge North station and Coldhams Lane has attracted strong public support, as well as some concentrated opposition and challenges, introducing delays to planning application submission to the JDCC (Joint Development Control Committee) and hence delayed further contract work. It is hoped that Phase One will be determined by JDCC in July following the need to produce more ecological information and the identified need for some further verified views of the area around the Leper Chapel Meadow.

There are also ongoing land negotiations underway with Network Rail along the southern section of The Chisholm Trail, and with the two development sites Ridgeons, Cromwell Road and the City Council Depot. These still offer some uncertainties as to how the trail will be routed through the new developments and the developers' timescales.

1.6 Cambourne to Cambridge / A428 Corridor

The overall profile of the scheme budget is higher due to both the increased scope of the scheme development from Cambourne to Cambridge including on highway and off highway options and additional analysis required carried out since October 2016 regarding alignments and P&R considerations.

The project is still within early design stages to establish an approved route alignment as well as further analysis on highway options. There has been further instruction to undertake additional analysis on route options and Park & Ride locations arising from concerns expressed at the Local Liaison Forum. There is likely to be an upward trend in the spend as the project continues to evolve over the coming year and is in line with GCP Executive Board key decision of 13th October.

1.7 Programme management & early scheme development

The main reason for the underspend is that the Tranche 2 development work that was anticipated to have started has now evolved into a wider piece of work looking at the GCP's overall Future Investment Strategy for 2020 onwards. Work that was anticipated to have begun by now on potential transport schemes, e.g. developing initial proposals for Newmarket Road/Eastern Orbital, has therefore yet to commence.

1.8 City Centre Capacity

Explanation for variance of +£266k from the £300k budget forecast for 2016/17.

The £300k budget was set before there was a scope for what is now the 8 point plan for City Access. The budget was very much an outline as 10% of the £3m allocated for this work within Tranche 1. Clearer definition and positive activity resulted in the variance, namely:

- Introduction of a City Access team that grew from zero to six during the financial year.
- Further development of the demand management options with Mott MacDonald as consultants, commissioning of the Bus Network Review, and work to complete the surveys of on street and off street parking. Included running the traffic model to take into account the demand management options.

1.9 A1307 Bus Priority

Changes in project team and lack of resources to progress delivery resulted in an underspend of £325k in the 2016/17 year. Further resources have been allocated to develop the project. The project will return to profile spend during the course of 2017, and is on programme for delivery

1.10 Cross-City Cycle Improvements

Of the five projects, construction work commenced on Hills Road/ Addenbrooke's and Links to Cambridge North Station in 2016/17. For the other three schemes detailed design, utility diversions, localised consultations and advertisement of traffic regulation orders are underway with construction work due to commence later this year.

Spend in 2016/17 was just slightly below budget.

1.11 Western Orbital

Executive Board have reviewed the outline business case and refined the project to align more closely with Highways England Proposals for the M11 and junction improvements. The scheme has therefore been reviewed and design time reduced resulting in a reduction in costs in 2016/2017.

1.12 A10 North Study Tranche 2

The use of the CSRM2 is a critical element of the study and this was delayed due to the delay in the CSRM 2 update project. The spend in 16/17 is made up of planning work, developing the initial evidence base, stakeholder engagement and initial coding of background schemes / scenarios to be modelled. The modelling work and subsequent reporting of results / preparation of options reports and recommendations will be undertaken in 17/18. The majority of expenditure for this project will be made in 17/18. The study is due to complete end of July 2017.

1.13 A10 cycle route (Shepreth to Melbourn)

On 9th June 2016 the GCP Board approved expenditure of £550,000 for the A10 Cambridge to Royston cycle route (Shepreth to Melbourn section). Work on site commenced in November and the scheme was completed bymid-March 2017. Final work elements such as signs, road markings and grass seeding have recently completed, and the final contractor bill has to be settled. The final scheme cost is expected to be just under the £550,000 allocated.

2. **Operations Budget**

2.1 This budgets include the carry forward of funding for Skills (£59k) and Smart Cambridge (£20k), from 2015/16 underspends.

2.2 The actual expenditure incurred in 2016-17 is as follows:-

Activity	Budget £000	Actual £000	Variance £000
Programme Central Co-Ordination Function	268.5	300.2	31.7
Strategic Communications	137.7	90.5	-47.2
Skills	190.0	187.5	-2.5
Economic Assessment	10.0	0.0	-10.0
Smart Cambridge	220.0	216.2	-3.8
Cambridge Promotions Agency	90.0	90.0	0.0
Housing	200.0	200.0	0.0
Affordable Housing	50.0	10.0	-40.0
Intelligent Mobility	200.0	55.0	-145.0
Total	**1,366.2**	**1,149.5**	**-216.7**

2.3 The following items will be required to be rolled forward into 2017/18:-

- £10k budgeted for Economic Assessment will need to be carried forward to cover costs in 2017/18.
- £3.8k budgeted for Smart Cambridge will need to be carried forward to cover costs in 2017/18.
- £40k budgeted for Affordable Housing will need to be carried forward to cover costs in 2017/18.
- £145k budgeted for Intelligent Mobility will need to be carried forward to cover costs in 2017/18.
- The balance of £18.0k will be carried forward to fund costs in future years.

2.4 The funding of the Operations expenditure in 2016/17 will be based on a pro-rata basis of the New Homes bonus received by the 3 authorities.

Authority	NHB funding £000	% split	Charge to each authority £000
Cambridge City Council	3,009	42	482.6
South Cambridgeshire District Council	2,727	38	436.6
Cambridgeshire County Council	1,434	20.0	230.3
Total	**7,170**	**100.0**	**1,149.5**

Appendix 2

Greater Cambridge Partnership Finance – May 2017

1. Programme Budget

1.1 A summary of the expenditure to May 2017 against the budget for the year is set out in the table below:-

Project Description	Total Budget £'000	2017-18 Budget £'000	Expenditure to date £'000	Forecast Spend - Outturn £'000	Forecast Variance – Outturn £'000
Histon Road Bus Priority	4,280	200	1	163	-37
Milton Road Bus Priority	23,040	800	22	242	-558
Chisholm Trail	8,400	2,025	85	1,525	-500
Cambourne to Cambridge / A428 Corridor	59,040	1,200	70	1,200	0
Programme management & Early scheme development	4,950	950	65	950	0
A1307 Bus Priority	39,000	1,000	25	1,000	0
Cross-City Cycle Improvements	8,000	3,537	477	3,300	-237
Western Orbital	5,900	600	70	600	0
A10 North Study & initial work	2,600	783	21	783	0
A10 cycle route (Shepreth to Melbourn)	550	0	6	39	+39
City Centre Access Project	8,045	1,426	48	1,426	0
Total	**163,805**	**12,521**	**890**	**11,228**	**-1,293**

1.2 The explanation for variances is set out below.

1.3 Histon Road – Bus Priority

Revised date to review scheme concept design is aiming for the November 2017 Executive Board. The current delivery plans assume two further rounds of consultation in late 2018 and mid 2019; public consultation on the detailed designs followed by a statutory consultation on draft traffic regulation orders.

1.4 Milton Road – Bus Priority

Revised date to review scheme design is now set for 15th June 2017 Executive Board. The current delivery plans assume two further rounds of consultation in early-2018 and late 2018; public consultation on the detailed designs followed by a statutory consultation on draft traffic regulation orders.

1.5 Chisholm Trail:

Phase One between Cambridge North station and Coldhams Lane has attracted strong public support as well as some concentrated opposition and challenges, introducing delays to planning application submission to the JDCC (Joint Development Control Committee) and hence delayed further contract work. Phase One is expected to be determined by JDCC on 22 July.

There are also ongoing land negotiations underway with Network Rail along the southern section of The Chisholm Trail, and with the two development sites Ridgeons, Cromwell Road and the City Council Depot. These still offer some uncertainties as to how the trail will be routed through the new developments and the developers' timescales.

1.6 Cambourne to Cambridge / A428 Corridor

The project is still within early design stages to establish an approved route alignment as well as further analysis on highway options. There has been further instruction to undertake additional analysis on route options and Park & Ride locations arising from concerns expressed at the Local Liaison Forum. There is likely to be an upward trend in the spend as the project continues to evolve over the coming year and is in line with GCP Executive Board key decision of 13th October.

1.7 Programme management & early scheme development

Initial resources for work on the prioritisation of CSRM2 (Transport Modelling) Modelling work to develop Tranche 2 have now been allocated, and are accounted for in this figure.

1.8 A1307 Bus Priority

Additional resource was allocated to the project towards the end of 2016. The scheme is currently on programme for delivery in 2020.

1.9 Cross-City Cycle Improvements

Of the five projects, construction work has commenced on two of them. For the other three schemes detailed design, utility diversions, localised consultations and advertisement of traffic regulation orders are underway.

Work on site has commenced on the first of three phases of Links to Cambridge North Station.

1.10 Western Orbital

Executive Board have reviewed the outline business case and refined the project to align more closely with Highways England Proposals for the M11 and junction improvements. The scheme has therefore been reviewed and design time reduced resulting in a reduction in costs in 2016/2017.

1.11 A10 North Study & initial work (Tranche 2)

The issues that were being experienced with the Cambridge Sub-Regional Model (CSRM) have now been resolved and work is underway on this Study. A Project Board has been established to provide oversight and direction to the work. The costs and programme are currently being revised and evaluated to take account of previous delays and changes. The Study is now updating the project plan, developing and assessing the initial evidence base, and undertaking modelling work to inform the development of outline options. The subsequent reporting of results/preparation of options reports and recommendations will then be undertaken.

1.12 A10 cycle route (Shepreth to Melbourn)

The scheme opened in March and is coming in slightly under the overall scheme budget. The finance table shows £39,000 expenditure in 2017-18 against a £0 budget for this year, which is the result of delay in payment of a final bill that was expected to finalised in 2016-17, so does not constitute an over-spend on the overall project.

1.13 City Centre Access project

This project is no longer funded by the GCP capital grant and is now funded by New Homes Bonus funding. However as the scheme is related to infrastructure it has been included within this section.

2. **Operations Budget**

2.1 This budgets include the carry forward of funding for Economic Assessment (£10k), Smart Cambridge (£3.8k), Affordable Housing (£40k) and Intelligent Mobility (£145k) from 2016/17 underspends.

2.2 The actual expenditure incurred in 2017-18 is as follows:-

Activity	Budget £000	Budget to date £000	Actual to date £000	Forecast Outturn £000	Forecast Variance £000
Programme Central Co-Ordination Function	500	83	59	644	+144
Strategic Communications	303	84	56	303	0
Skills	190	48	48	190	0
Economic Assessment	20	0	0	20	0
Smart Cambridge	734	121	-5	734	0
Housing	200	0	0	200	0
Affordable Housing	40	0	-10	0	0
Intelligent Mobility	275	22	-1	275	0
Local Authority Administration Costs	111	40	40	71	-40
Developing 12 cycling greenways	200	33	13	200	0
Electric Vehicle charging	25	0	0	25	0
Travel Audit	150	0	0	150	0
Travel Hubs	100	0	0	100	0
Cambridge Promotions	40	0	0	40	0
Towards 2050- Strategic Planning & Transport framework	230	0	0	230	0
City Centre Movement & Spaces	150	0	0	150	0
Residents Parking Implementation	269	7	0	269	0
Total	**3,537**	**438**	**200**	**3,641**	**+104**

2.3 Increase in funding

In January 2017 the Executive Board confirmed the need for the deployment of additional executive resources to support the GCP Programme, and agreed a budget allocation in the 2017/18 budget setting process. This was in recognition that pace and momentum was being affected by the fact there was no single point of focus or accountability, and that trying to deliver the programme 'on top of the day job' was simply not sustainable. It was agreed that an interim Chief Executive should be in place for a six-to-nine month period which would then be subject to a review.

As we approach that point it is generally believed by key stakeholders that the Chief Executive has added value, and rigour, to the governance, stakeholder engagement and overall programme focus during this period. There is however still much to do. It is therefore important that this impetus is maintained in order that the outcomes and priorities that the GCP has set are delivered.

Having consulted with the Leaders and Chief executives of the three Local Authorities the Section 151 Officer has used his delegated decision making authority to extend the assignment to the end of the current financial year. The cost of extending this assignment will be £144k. There is no provision for this sum within the base revenue budget however £40k has been identified within the base operations budget as not being required within the current financial year. It is hoped that further opportunities will be identified as the financial year progresses but at this stage the Board are asked

to approve a net increase in the operational budget in the sum of £104k that will be funded from drawing additional funding from the New Homes Bonus resource.

Six-monthly report on Smart Cambridge

1) **Background**

This update follows the progress report provided to the GCP Executive Board on 10 Nov 16 and the decision made on 8 March 2017 to support a further phase as follows:

Scaling up the Smart Cambridge programme and attracting further investment in data and technologies (£1.640m over 3 years). It will focus on three aspects:

(a) *Better quantity, quality and use of data to improve information available to citizens,*
(b) *Embedding digital solutions and emerging technology in GCP work streams to ensure long term sustainable success, and*
(c) *A collaborative approach that uses the power of digital technologies to galvanise the business, community and academic sectors to work together and use their combined strengths to produce better outcomes for Greater Cambridge*

2) **Overview**

- Overall progress is good, and the work is within budget.

- The Intelligent City Platform (ICP) which includes a sensor network, a data platform together with web access is operational. It is being used to provide real time information for a variety of applications including the MotionMap travel app and a competition funded by IoT Boost in which SMEs are solving city challenges using the sensors and data.

- The MotionMap travel app Beta version is being used by volunteers and a wider trial is planned for Sep 2017. Assuming the trial stage goes according to plan, it is anticipated that the app will be available for download from app stores by end 2017.

- Feasibility studies for Autonomous Vehicles (AVs) on the guided busway and Affordable Very Rapid Transit have been completed and funding for a third which will explore AVs and the Greater Cambridge research campuses has been secured. A report on integrated ticketing and payments was carried out by Arup.

- An EU Urban Innovative Actions fund (UIA) bid has been submitted which aims to achieve lasting congestion reduction through modal shift from private car to public, shared and sustainable transport through implementation of an innovative digital transport product (Mobility as a Service pilot). The bid process is a competitive one and we expect to be advised of the outcome during autumn/winter 2017.

- Collaboration with several University of Cambridge departments, local authorities and businesses has been positive and productive. We have engaged residents by running two ‘hack’ events as well as speaking at a number of meet-up groups in Cambridge

- The Smart Cambridge programme continues to attract national and international attention from other locations with leading edge Smart City ambitions.

3) **Progress summary across all workstreams**

No.	Workstream description/ status	Progress/activities to date
1	Establishment of an Intelligent City Platform (ICP) ***COMPLETE***	• The ICP has been established and is operational. It is connected via a low power, long range LoRaWAN network and includes 10 base stations. Basic testing of the infrastructure and data has been completed.# • The ICP covers the city and significant parts of South Cambs. • The data contained in the ICP has been visualised in a variety of ways including maps and graphs.
1(b)	ICP Early Adopters ***ON TRACK***	• Real time bus information is now live as part of the Google transit transport planning application. • The MotionMap travel app Beta version is being used by volunteers and a wider trial is planned for Sep 2017. Assuming the trial stage goes according to plan, it is anticipated that the app will be available for download from app stores by end 2017. • Smart Cambridge has engaged with the University of Cambridge Department of Chemistry on an air quality trial which evaluated a new and more effective type of sensor. • IoTUK Boost funding is supporting a competition between 10 SME's to develop products or services that utilise the ICP to solve city challenges.
	Digital wayfinding at Cambridge Station ***IN PROGRESS***	• A brief for self-service screens and an outline of their contents has been delivered. • Two potential sites have been identified, ducting to support power and connectivity is in place and S106 monies have been identified. • The stakeholders required to progress this initiative have been identified, and next steps are to convene that group to sign off the brief and agree a schedule.
	First steps to Intelligent Mobility ***COMPLETE***	Three feasibility studies were agreed as part of this workstream, namely: • Autonomous vehicles (AVs) on the Guided Busway (completed) • Affordable Very Rapid Transit (completed) • A further feasibility study on AVs and the Greater Cambridge research campuses (funding secured and planned to complete in July 2018). A research report on integrated ticketing and payment was commission and carried out by Arup to identify market and technology trends. An EU Urban Innovative Actions fund (UIA) bid has been submitted which aims to achieve lasting congestion reduction

4) Next steps: This section identifies the initiatives agreed to date

Enhance the ICP: enhancements have been agreed as follows:

- Two further bases stations will be added to the 10 already in use with the possibility of further base stations being required from time to time to ensure appropriate network coverage.
- A resourcing plan will be defined for the ICP's support and further enhancement**.**
- A strategy and roadmap will be developed to test the predictive capability of artificial intelligence in the context of the ICP and the datasets it contains.

- Data feeds and Application Programming Interfaces (APIs) will be provided to enable employers, academics and developers to access and use the data. Examples of uses of the data include tailored screens containing transport information and the development of new apps.

Develop the data/evidence base: enriching the data available and ensuring it is used and visualised as widely as possible to further the aims of the programme.

- An approach will be defined to undertaking a data audit to consider the data requirements of all GCP's programmes. The audit will identify the data already available together with gaps and data issues.
- Usage of the ICP by third party data users, community groups and businesses of different types will be promoted. This work will include defining rules of use and will help these groups to add new types of sensors, utilise the data etc.
- A number of specific initiatives will be investigated to make the data visible and tangible, namely Variable Message Signs (VMS), Big Screens, Digital Wayfinding and the MotionMap App Phase 2.
- New sensor applications will be investigated including sensors in dog waste bins which indicate when they require emptying and sensors on bin lorries which can be used to detect their location potentially with an app to allow householders to access this information and report missing collections. Other applications will also be investigated.

Support GCP's air quality initiatives:

- Support will be provided to the NERC funding bid team. If the bid is successful, Smart Cambridge will provide support for the data infrastructure.

Car Parking Initiatives: Providing better information about car parking in the city can help to reduce congestion, improve air quality and encourage shifts to more sustainable means of travel. Specific initiatives include:

- Connectivity issues which have resulted in poor parking space availability data will be investigated and remedies proposed.
- Data about car parks and on street parking is currently limited. For example, drivers cannot find out about car parking queueing times so there is no opportunity for them to make alternative travel choices. This initiative will identify what other parking data could be gathered to reduce congestion and will propose how the data can be obtained and used.
- Coaches and lorries have very limited information about where there is space for them to pick up/drop off or unload resulting in congestion and/or hazards for other road users. This initiative will evaluate options for ameliorating this situation through the use of information and technology and will propose a roadmap for implementation.
- We have supported a bid to Innovate UK led by Appy Parking to use technology to improve parking payment mechanisms as a means to influence behaviour. Innovate UK should advise whether the bid has been successful or not by Sep 17. If successful, Smart Cambridge will participate as appropriate.

Mobility as a Services (MaaS):

- If the EU Urban Innovative Actions fund (UIA) bid described above is successful, Smart Cambridge will participate as appropriate. If it is not, a new approach and plan will be developed.

Autonomous Vehicles (AVs):

- As described above, a further feasibility study on AVs and the Greater Cambridge research campuses is due for completion in July 2018. This study will explore a system of fare-paying, connected, autonomous mini-buses.

Smart Cambridge Engagement and Communications

- There is a provisional Smart Cambridge plan to hold a 'future of transport' conference in Cambridge and it is understood the Mayor is also keen. It is proposed to explore whether a single high-profile event could be mutually beneficial.
- The Smart Cambridge Collective will be developed as an engagement approach with a broad range of citizens, businesses and other groups to explore the opportunities and provide a basis for future collaboration.

Programme gateway review:

- An innovation framework is being developed to support the delivery of the Smart Cambridge programme. This includes a number of [Smart Cambridge] gateway reviews the first of which is provisionally planned for early 2018, and therefore preparation will take place from autumn 2017.

Appendix 4

Update on independent economic assessment panel

Overview of gateway review process

The Greater Cambridge Partnership's City Deal is one of a number of 'Gainshare' deals between Government and groups of local partners: the Cambridgeshire and Peterborough Devolution Deal is another. The aim of 'Gainshare' deals is that Government agrees to invest in an area, for the economic benefit of that area and the UK as a whole. A condition of the Greater Cambridge City Deal agreement – and all other Gain share deals – is that a Gateway Review is conducted every 5 years by an Independent Economic Assessment Panel, to inform future funding decisions.

Central Government funding under the GCP's City Deal Agreement (all in equal annual instalments) is:

- £100 million for 2015/16-2019/20
- Up to £200 million for 2020/21-2024/25, depending on the outcome of the 2019 Gateway review
- Up to £200 million per year for 2025-35 (or 2025 to 2030 if we can deliver quickly), depending on the outcome of the 2024 Gateway review.

The 2019 Gateway review is expected to evaluate whether we are delivering on track and on budget, whether our investments are realising the expected benefits, the added value from our partnership and, if they can be identified as early as 2019, the wider economic benefits.

The economic assessment work provides an opportunity to ensure that the Greater Cambridge Partnership's work is evidence-driven and to assist us in continuously improving the performance monitoring and evaluation of Greater Cambridge Partnership investments. The Cambridgeshire and Peterborough Combined Authority agreed at its last meeting to establish an independent economic commission, whose work would be available to the Greater Cambridge Partnership to inform its decision-making.

Progress since last update

The Independent Economic Assessment Panel is now up and running, overseen by a Steering Group of the Locality Partnerships with Gain Share deals, as well as Government representatives. This shares lessons between Localities and oversees the work on an overarching National Framework for the economic assessments. The Economic Assessment Panel is developing this, as well as individual Locality Frameworks for each Locality Partnership with a Gain share deal.

- The National Framework effectively provides a menu from which the Locality Frameworks are developed.
- The Locality Frameworks tailor the National Framework to local circumstances and the details of the individual Deals, recognising that local factors will be key in evaluation.

Officers from the GCP Team have been working closely with those from the Combined Authority to take a consistent approach to working with the panel, including for instance sending single consolidated feedback.

Current position

The panel has now completed the National Framework, and is focusing on the Locality Frameworks. GCP officers are engaging regularly with the panel to develop our Locality Framework, to ensure it develops in a way that suits the needs and details of the GCP City Deal.

The panel's work is being broken down into three phases:

1. Design – broken down into three further stages:
    a) Development of the National Evaluation Framework
    b) Co-production of Locality Evaluation Frameworks
    c) Development of Outline Evaluation Plans for each Locality Framework
2. Implementation

3. Reporting

The phase 1 work has a cost due from the GCP of £30k for that work. In October it was noted that the budget for this work was uncertain and that an allocation of £10k per year had previously been agreed by the Executive Board.

The budget required for phases 2 and 3 will be determined following the completion of phase 1 and will be reported back to the Executive Board at that point. In lieu of a certain figure for that work, it is prudent to make an indicative allocation of £20k for each of 2018/19 and 2019/20, which might need to be reviewed once further certainty is available, but should provide a realistic budget envelope. This would mean the budget for this work is as illustrated below.

Financial year	Current budget	Proposed budget
2017/18	£20,000	£30,000
2018/19	£10,000	£20,000
2019/20	£10,000	£20,000
Total	£40,000	£70,000

Next steps

Phase 1 is expected to be completed by the end of October. It is recommended that the Executive Board delegates authority to the Interim Chief Executive, in consultation with the Chairperson of the Executive Board and the Economy and Environment Portfolio Holder, to sign off the Locality Evaluation Framework and Outline Evaluation Plan.
Once it is complete, we will be able to agree a clear timeframe for the 2019 gateway review, which will then be reported back to the Executive Board.

Appendix 5

Executive Board forward plan

Notice is hereby given of:

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

A 'key decision' is one that is likely:

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

Item title	Summary of decision (including notice of confidential or exempt information, if appropriate)	Officer lead(s)	Key decision?
Joint Assembly: 13 September 2017 Executive Board: 20 September 2017	**Reports for each item to be published: 1 September 2017**		
Future Investment Strategy for Tranche 2 and beyond	To consider the GCP's Future Investment Strategy for the period 2020 onwards.	Tanya Sheridan	No
Cambourne to Cambridge schemes: • Madingley Road • A428-M11 • Bourn Airfield / Cambourne busway	To consider detailed work undertaken since the Board decisions in October 2016, a revised update on the programme, and approve public consultation on option(s).	Chris Tunstall	Yes
Western Orbital	To consider options for Park & Ride capacity enhancements at J11 of the M11 and to seek approval on developing a business case	Chris Tunstall	No
Skills investment case	To consider the case for scaling up skills work following agreed pilots on employer demand for apprenticeships and careers advice in schools.	Stella Cockerill	Yes
GCP quarterly progress report	To monitor progress across the GCP workstreams, including: • The latest financial monitoring information • Six-monthly report on the Strategic Risk Register • Six-monthly report on housing • Six-monthly report on skills	Tanya Sheridan	No
Joint Assembly: 15 November 2017 Executive Board: 22 November 2017	**Reports for each item to be published: 3 November 2017**		
Histon Road bus priority	To consider the 'final concept' design as a basis for detailed design work and the preparation of an interim business case, to facilitate further public and statutory consultation.	Chris Tunstall	Yes
A1307 Three Campuses to	To consider and approve the revised options for the scheme following LLF workshops.	Chris	No

Cambridge		Tunstall	
GCP quarterly progress report	To monitor progress across the GCP workstreams, including: • The latest financial monitoring information. • Six-monthly report on Smart Cambridge.	Tanya Sheridan	No

Appendix 6

Update on the implementation of the Mouchel report recommendations

Purpose

This document sets out the GCP's Interim Chief Executive's plan for implementing the key recommendations of the Mouchel Report. This has been prepared in consultation with the GCP Executive Board.

Background

The Board sought external, independent advice on the evolution and leadership of a dedicated GCP transport team. The GCP Programme Director commissioned Mouchel Consultants in Autumn 2016 to review the delivery of the GCP transport work stream and provide independent, external assurance, in line with good practice for large programmes.

A total of 24 recommendations were made in the Mouchel Report and the GCP Executive Board is progressing with 21 of these recommendations. The following plan sets out how these 21 recommendations are being or will be implemented and includes the reasons for why three of the recommendations are not being progressed.

The GCP welcomes the Mouchel Report and its recommendations, and is grateful to them for this thorough piece of work.

Governance, Assurance and Measuring Impact

The plan will be overseen by the GCP team which is chaired by the Interim Chief Executive and is held monthly. Additional scrutiny is provided by the GCP Executive Board, which is a bi-monthly public meeting chaired by an elected member and with representatives of each local authority (Cambridge City, Cambridge County Council and South Cambridgeshire Council) as well as the University of Cambridge and the Local Enterprise Partnership (LEP).

The GCP has an assurance framework due to be reviewed in 2017 but is the current mechanism by which progress, outcomes and impact are being measured for the four GCP workstreams, one of which is transport.

Actions will be RAG rated individually for outcome and impact as follows :	
RED	**Outcome:** Task timescales have slipped and need attention. **Impact** cannot start to be measured yet but should be have been
AMBER	**Outcome:** Tasks are not fully on track but plans are place to ensure progress by an identifiable timescale **Impact** of outcomes can start to be seen and measured, but are not met.
YELLOW	**Outcome:** Tasks are on track, but may not yet be fully embedded as business as usual **Impact**: Impact can be measured, is heading in the right direction but not yet meeting targets
GREEN	**Outcome**: Tasks are progressing as expected and are deemed to be on target or business as usual **Impact** of outcomes is meeting expectations / targets

BLUE	Completed
GREY	**Process**: Not yet started - action is not scheduled to start in this period. **Impact** not yet expected to be realised (i.e. actions in progress/not started).

Recommendation One

a) Undertake a workforce planning exercise of the current and future GCP transport resources which includes; a skills audit of current technical and project capability.

b) Undertake an analysis of the age profile in relation to succession planning and the scope for graduate training and apprenticeships.

	Actions	Timescale	Lead	Progress	Impact
1	A workforce planning exercise to be scheduled to map the skills within the team.	By July 2017	Lyndsay Fulcher	Exercise completed. Skills and capability matrix developed to assist with gap analysis and inform future recruitment need	Staff with the right skills work for CCC; Projects are on track and on budget and deliver all identified business case needs;
2	Complete an analysis on the future technical resources required to deliver the GCP's City Deal	Completion by the end of January 2017	Steve Dickinson	Overall analysis complete and recruitment to newly developed structure currently in progress	Projects are on track, on budget and deliver identified business case needs;

Recommendation Two

Review the current approach to recruitment and develop a targeted campaign for attracting specific resources to the GCP transport work stream recognising the need to reflect the market conditions.

	Actions	Timescale	Lead	Progress	Impact
3	Establish strategies with relevant organisations to attract professionals with the right skills and experience to bolster the broader GCP team.	To start in January 2017	Chris Tunstall; Graham Hughes and Michelle Gwyther	Recruitment processes started early June across ETE through the recruitment microsite; Skills and capability matrix outcomes to assist with recruitment.	Staff with the right skills are attracted to work for CCC; Projects are on track and on budget and deliver all identified business case needs;

Recommendation Three

Establish a separate dedicated co-located GCP transport core team that is responsible for delivery of the agreed GCP transport projects, draws on a range of transport expertise and is co-located with the Smart Cambridge work stream.
If a Cambridgeshire and Peterborough Devolution Combined Authority is established in November, consider how this may be aligned with any Transport programme it agrees and where there is scope to share services etc.

	Actions	Timescale	Lead	Progress	Impact
4	Creation of a dedicated, co-located team which focuses	Start from April 2017	Graham Hughes and Chris	A GCP transport team structure was developed and staff started working	Better project control and direction to deliver projects on

	entirely on the GCP projects, which will also ensure the County Council remains well placed to deliver non- GCP transport projects.		Tunstall	under the new structure from 4th April 2017.	track, on budget and achieving identified business case outcomes; Increased sense of a team, and strategic direction.
5	Close working between the GCP and the impending Combined Authority leaders to understand, consider, and take advantage of alignment opportunities.	On-going from November 2016	Rachel Stopard	CD assurance framework refresh sighted on CA assurance framework; Work to align Gateway reviews	A joint strategy for delivery across all economic investment strands that spans across the GCP, the Combined Authority and LEP.

Recommendation Four					
4. Appoint a full-time senior officer who is the dedicated transport lead i.e. a GCP Transport Director who is accountable to the GCP partnership and Executive Board.					
	Actions	**Timescale**	**Lead**	**Progress**	**Impact**
6	Recruitment of an interim GCP Transport Director who reports directly to the GCP Chief Executive.	By February 2017	Rachel Stopard	Completed. Chris Tunstall started on 23rd February 2017	Core resources identified for dedicated team; Better project control and direction to deliver projects on track, to budget and achieving identified business case outcomes; Increased sense of a team and strategic direction
7	Recruitment of a permanent, dedicated GCP Transport Director who reports directly to the GCP Chief Executive.	By April October 2017	Rachel Stopard	To commence summer 2017	

Recommendation Five					
Adopt a mechanism to secure a long term relationship with a single multi-disciplinary transport consultancy which can provide dedicated specialist resources to be co-located within the client organisation.					
	Actions	**Timescale**	**Lead**	**Progress**	**Impact**
8	County Council to undertaken pre-procurement exercises to identify a suitable transport consultancy.	Winter 2016 to Spring 2017	Richard Lumley/Stuart Walmsley	The ETE Highways contract has been awarded and work is underway to ensure the transport consultancy compliments the	

				existing highways contract; Information gathering and visits to LA's across England have been undertaken to investigate different models;	Procurement of a multiple disciplinary transport supply chain that can respond to identified need
9	Complete the procurement of a suitable transport consultancy	From Spring 2017 to Summer 2018	Stuart Walmsley	A draft business case is being prepared to be taken forward	

Recommendation Six					
Adopt a comprehensive approach to programme management across the entire transport work stream ensuring all project managers have the appropriate skills and all projects have a business case, a project initiation document and a project plan and that project objectives are agreed at inception and regularly communicated.					
	Actions	**Timescale**	**Lead**	**Progress**	**Impact**
10	Appointment of a transport infrastructure Programme Manager	September 2016	Tanya Sheridan	Completed. Tanya Pascual in post	More reliable and consistent reporting on programmes, enabling early identification of issues, change control and forward decision making
11	Programme and project management expert is building capacity and catalysing continuous improvement.	From October 2016 Spring 2017	Steve Dickinson	Completed. Programme management expert has an influencing and shaping the organising role; Steve is working with senior managers to implement regular and robust risk, finance and project/programme reporting;	More reliable and consistent reporting on projects and programmes, enabling early identification of issues, change control and forward planning and decision making
12	Implementation of consistent and best practice approach to programme management	From January 2017 onwards	Steve Dickinson/ Tanya Pascual	Programme management is being coordinated by the Programme Manager for GCP projects. Compliance and consistency across project delivery teams is developing and ongoing.	More reliable and consistent reporting on projects and programmes, enabling early identification of issues, change control and forward planning and decision making

Recommendation Seven

Accelerate the roll out of the ASTA comprehensive programming tool which provides an early warning escalation process when there is slippage that may affect key milestones being met with a clear change control mechanism in place.					
	Actions	**Timescale**	**Lead**	**Progress**	**Impact**
13	Roll out of ASTA across the GCP project team	End of April 2017	Steve Dickinson/ Tanya Pascual	Process for reporting GCP programme status by Programme Manager to the GCP Infrastructure Director is developing and ongoing.	More reliable and consistent reporting on programmes, enabling early identification of issues, change control and forward planning and decision making

Recommendation Eight					
Improve the quality control of all the Board reports to ensure they are fit for purpose i.e. they are of the right quality, substance, technical jargon is avoided, a link between how a specific project contributes to the overall objective is highlighted and there is appropriate sign off.					
	Actions	**Timescale**	**Lead**	**Progress**	**Impact**
14	Clarification of processes and timescales for Boards	Autumn 2016	Aaron Blowers	Completed, but this is an iterative process whereby reporting timescales are regularly reinforced.	Clearer timescales enable better reports and brief to be developed, resulting in the early identification of any issues and potential solutions; Supports improved forward planning and decision making.
15	Produce and distribute training and guidance for Project Leaders.	December 2016	Tanya Sheridan	Completed, but this is on-going work to continually improve reporting to the Board.	Less demand on officers to provide the same detail in multiple formats; More reliable and consistent reporting on programmes, enabling early identification of issues, change control and forward planning and decision making
16	Develop and roll out presentation training	March 2017	Debbie Goodland/ Beth Durham Tanya Pascual	6 project leads /managers attended a 2 day training course in November 2016; A second course will be scheduled once first wave of new staff are in post.	More succinct and relevant presentations that focus on the right project aspects to facilitate productive discussions and swift decision making.

Recommendation Nine					
Consider having a SharePoint system or equivalent to enable all the GCP documents to be held in one place and be readily accessible to the appropriate people.					
	Actions	**Timescale**	**Lead**	**Progress**	**Impact**
17	Consolidation of all GCP information consolidated into a single internal system.	December 2016 to Spring 2017 By September 2017	Aaron Blowers	Current shared file system is being reviewed and where required tidied; Work is underway to investigate the most suitable option for a filing system across the programme	GCP documents are accessible by all officers; Documents are saved in a consistent and coherent way; Supports better version control of documents.

Recommendation Ten					
Develop and disseminate a project manager's good practice guide describing all the key stages in delivering a transport project which can be regularly reviewed following a formal debrief and lessons learnt process. This should if possible be harmonised across Transport programmes.					
	Actions	**Timescale**	**Lead**	**Progress**	**Impact**
18	Development of a good practice guide.	February June 2017	Aaron Blowers	The guide has been developed.	Consistent and early identification of issues, change control; Improved forward planning and decision making
19	Dissemination of the guide to managers throughout the GCP and wider transport programmes	February June 2017	Aaron Blowers	Dissemination through a variety of channels is on-going.	
20	Continued embedding of the good practice guide through an agreed action owner	February June 2017 onwards	Aaron Blowers / Tanya Pascual	This will be an iterative process and will be issued to new staff as they start	

Recommendation Eleven					
Introduce and disseminate better guidance to officers on what is expected from them when presenting at the Assembly and Executive Board and on key GCP processes they should follow.					
	Actions	**Timescale**	**Lead**	**Progress**	**Impact**
21	Development of guidance for officers	November 2016	Tanya Sheridan	Completed. To be re-issued to new staff recruited via the recruitment microsite	More succinct and relevant presentations that focus on the right project aspects to facilitate productive discussions and swift decision making.
22	Distribution of guidance for officers	December 2016	Beth Durham		
23	Development of regular, informal staff briefings to facilitate more effective presentations to Assembly and Executive Board.	From Spring 2017	Beth Durham	Officers to be part of Board briefings as appropriate to further develop skills in presenting to members.	

Recommendation Twelve					
Consideration needs to be given as to when to undertake a refresh of the transport strategy for Cambridge and South Cambridgeshire to ensure it is up-to-date and reflects the impact of any latest development patterns and other relevant changes.					
	Actions	**Timescale**	**Lead**	**Progress**	**Impact**
24	Refresh the transport strategy once the Strategic Economic Plan has been refreshed by the LEP and the examination of the Cambridge and South Cambridgeshire has concluded so that both inform the transport strategy.	From Spring 2018	Jeremy Smith	SEP refresh work underway but has not been completed and the Local Plan examination is still ongoing.	Too early to see impact as the action has not yet started

Recommendation Thirteen					
More investment to be made to ensure the transport and economic evidence base is up-to-date. Synergies and co-investment opportunities with other bodies e.g. The LEP should be explored.					
	Actions	**Timescale**	**Lead**	**Progress**	**Impact**
25	Completion of the Cambridge Sub Regional Model (CSRM) update.	January February 2017	Lou Mason- Walsh	Completed Revised model has more up to date data, and is Webtag compliant;	Ability to test local plan allocations and scenarios; Better decision making on key schemes with an ability to understand the impact and required mitigation and how all scenarios fit together and interact; Has been used on three projects.
26	Refresh of the Strategic Economic Plan Local commissioned by the LEP which will provide a valuable addition to the evidence base.	Target completion March July 2017	Adrian Cannard	The Evidence Base went to the LEP Board in June 2017, whereupon they agreed to finalise the work by the beginning of July. The LEP Board are reviewing the next steps at the July 2017 meeting including further consultation. Work will continue with the GCP and the Combined Authority on the emerging proposal for an	A clear vision and shared sense of purpose is in place across the partnership; An increased ability to unlock the potential economic growth within the area.

				independent economic commission.	

Recommendation Fifteen					
Ensure there is a clear decision-making process in place for the Board to demonstrate approval of the programme and projects and that it is followed and effectively communicated and appropriate delegations are put in place.					
	Actions	**Timescale**	**Lead**	**Progress**	**Impact**
27	Codify and recirculate the change control principles that apply to the GCP programme.	December 2016	Aaron Blowers	Change control principles completed and circulated in January 2017.	More effective management and decision making around requests for modifications to projects in terms of cost, scope or timeframes; Increased recognition of the impacts that for instance a cost change on one project can have on the wider programme; Projects delivered on track and on budget
28	The Joint Assembly and Executive Board to review and agree the issue management and Change Control principles.	January 2017	Tanya Sheridan	The GCP Executive Board on 25th January 2017 noted and endorsed the codification of the principles used in the GCP City Deal for change control and issue management, as detailed in the printed decision sheet Jan 2017 Exec Board	

Recommendation Sixteen					
Ensure that if Board members request changes be made to reports, they only do so through the senior transport lead officer, who will consider whether those are appropriate and clearer rules around the Executive Board seeing and contributing to documents ahead of publication are agreed.					
	Actions	**Timescale**	**Lead**	**Progress**	**Impact**
29	Develop a Board report comment process that is channelled through a single, senior officer, who acts as a single point to consider comments.	November 2016	Tanya Sheridan	Completed. Report writing guidance has been issued to officers. With the interim transport director in post, all reports are being channelled through him for sign off.	All Board and Assembly members have the information they need to advise on and take decisions and to monitor and challenge progress; Officers across the partnership are supported in producing effective reports and papers that receive swift strategic sign off prior to publication; To ensure that papers and reports are accessible to non-technical audiences.
30	Circulate this report comment process and associated guidance to all Board members.	January 2017	Tanya Sheridan		

Recommendation Nineteen
Continue with changes to standing orders and put in place a strategy to improve the management of public questions and public speaking at Assembly and

Board meetings.					
	Actions	**Timescale**	**Lead**	**Progress**	**Impact**
31	Agree changes to standing orders agreed, giving time for better answers to questions	December 2016	Aaron Blowers	Completed; A public questions log has been developed for Executive Board and Joint Assembly which is published after each meeting on S Cambs website.	A more understandable public questions process that responds to concerns and issues raised by the public, members and officers; For the public there is increased transparency of questions raised and information given in return
32	Develop a protocol on publishing public questions and responses.	January 2017	Aaron Blowers/ Michelle Gwyther	Completed; Protocol completed and circulated to all project leads and reminders are given before each meeting cycle as to requirements.	Officers able to answer public questions appropriately; For the public there is increased transparency of questions raised and information given in return
33	Circulate the protocol on public questions and responses.	January 2017	Aaron Blowers/ Michelle Gwyther		

Recommendation Twenty					
Review the approach to engagement on individual projects and recognising the benefits of local liaison and design forums if they are managed appropriately.					
	Actions	**Timescale**	**Lead**	**Progress**	**Impact**
34	Refresh the communications strategy and stakeholder engagement plan, informed by stakeholder consultation.	January 2017	Beth Durham	Completed.	Increased ability to meet defined strategic objectives; Increased capacity and capability to deliver a professional communications service capable of flexing to meet organisational needs. Swifter response to public enquiries
35	Complete a review of resource, process and structures to seek the optimum communications model to best support enhanced community engagement.	March 2017	Beth Durham	Completed so communications resources are to GCP projects.	

Recommendation Twenty One					
Both the City Deal and LEP should consider how to improve engagement between the two partnerships.					
	Actions	**Timescale**	**Lead**	**Progress**	**Impact**
36	This issue was already being addressed and the LEP are in the process of recruiting a permanent member of staff to	By May 2017	Adrian Cannard	Neal Cuttell started in post at the end of May 2017 to be the LEP lead on GCP activity	A clear vision and shared sense of purpose is in place across the partnership;

	serve in a liaison and engagement capacity with the GCP.				

Recommendation Twenty Two					
Consider what actions could be taken to develop confidence and the relationship between officers and members. An away day for Board members to include key transport project staff would help to improve the overall understanding of Board strategy, investment priorities and ensure a mutual appreciation of the challenges involved in delivering major infrastructure projects. Similar relationship and confidence building approaches for the Joint Assembly should also be considered.					
	Actions	**Timescale**	**Lead**	**Progress**	**Impact**
37	Organise an away day for Executive Board members in January 2017	Scheduled for 30th January 2017.	Tanya Sheridan	Completed. Further away days have been held in March and May 2017 for both Executive Board and Joint Assembly members	Stronger overview and scrutiny; More clarity over roles and responsibilities within and between governance structures; Enhanced understanding of project outcomes and areas that require further support and scrutiny.
38	Organise regular briefing seminars for Board and Joint Assembly members.	From March 2017	Beth Durham	Regular sessions and workshops have been scheduled for Board and Joint Assembly members.	

Recommendation Twenty Three					
Review the overall approach to communications by developing a strategy that is joined up across all work streams, articulates the vision (what Greater Cambridge will look like in 2030) and identifies a more proactive approach to how individual projects support the wider programme.					
	Actions	**Timescale**	**Lead**	**Progress**	**Impact**
39	Development and implementation of a revised communication strategy	January 2017	Beth Durham	Communications strategy has been completed and is being implemented.	Increased officer knowledge about GCP to enable them to fulfil their role better; Effective management of stakeholder needs, expectations and ensure a wider representation;

Recommendation Twenty Four					
Review and consider integrating the Communications resources across the Transport work stream to ensure they are more joined up and overall skills are more effectively utilised.					
	Actions	**Timescale**	**Lead**	**Progress**	**Impact**
40	Explore the development of a dedicated information, engagement and	March 2017	Beth Durham	Completed. Communications resources aligned in March 2017 to GCP projects;	Better quality communications products and services, leading to increased stakeholder

	communications team to meet the significant requirements of the GCP.				satisfaction; A more consistent service, little or no duplication on communications resulting in increased officer and customer satisfaction.

Recommendations that are not being progressed		
No.	**Recommendation**	**Rationale why recommendation is not being progressed**
14	The legislation under which the Executive Board was set up does not allow the Local Enterprise Partnership or Cambridge University representatives to vote. As future governance arrangements are developed, consider the question of how the Local Enterprise Partnership and, if it wants to, Cambridge University, might be given full voting rights on the Executive Board.	This recommendation will not be progressed at this time as legislation does not allow non-Council representatives on a decision-making Joint Committee to have a vote. Cambridge University is not seeking Executive Board voting rights. However, there will be a continued focus on enhancing business engagement, led by the Local Enterprise Partnership to ensure a strong business voice in GCP decision-making, backed by duty to consider LEP advice at the Executive Board
17	Introduce more frequent briefing meetings for the Executive Board.	This recommendation will not be pursued as it is not considered necessary and that current arrangements are suitable.
	In order to help expedite projects, there may be a need for a process to be put in place to achieve Board approval outside of the Board's meetings.	No specific process is going to be put in place for Board decisions outside formal meetings but the GCP will explore this recommendation whilst maintaining openness and transparency.

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GREATER CAMBRIDGE PARTNERSHIP

Growing and sharing prosperity

Delivering our City Deal

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

2. A1303 BUS PRIORITY OPTIONS' (SKANSKA - ATKINS)

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CAMBOURNE TO CAMBRIDGE BETTER BUS JOUREYS - P&R SITE SHORTLIST SELECTION
INVESTMENT SIFTING AND EVALUATION TOOL (INSET)

1A.HIGH LEVEL THEME - POLICY ALIGNMENT

No.	Name	Greater Cambridge Greater Peterborough enterprise Partnership Ambitions												
		Enhance Digital Connectivity		Business Growth		Growth of business innovationand incubator space		Removes skills barriers to contiued growth		Transport network fit for an economically vital high growth area		Alconbury Weald enterprise campus		WEIGHTED AVERAGE
		Select from list:												
0	**Existing Madingley Road Park and Ride**	0: Neutral (N/A)	0	1: Small positive (Small positive fit)	1	0: Neutral (N/A)	0	1: Small positive (Small positive fit)	1	2: Medium positive (Medium positive fit)	2	0: Neutral (N/A)	0	**0.67**
1	**Madingley Mulch North East (site adjacent to SSSI north of A1303)**	0: Neutral (N/A)	0	1: Small positive (Small positive fit)	1	0: Neutral (N/A)	0	1: Small positive (Small positive fit)	1	2: Medium positive (Medium positive fit)	2	0: Neutral (N/A)	0	**0.67**
2	**Madingley Mulch North West (often referred to as Park Farm)**	0: Neutral (N/A)	0	1: Small positive (Small positive fit)	1	0: Neutral (N/A)	0	1: Small positive (Small positive fit)	1	2: Medium positive (Medium positive fit)	2	0: Neutral (N/A)	0	**0.67**
3	**Madingley Mulch South West (Often referred to as water works site)**	0: Neutral (N/A)	0	1: Small positive (Small positive fit)	1	0: Neutral (N/A)	0	1: Small positive (Small positive fit)	1	2: Medium positive (Medium positive fit)	2	0: Neutral (N/A)	0	**0.67**
4	**Madingley Mulch South East (often referred to as Chrome Lea)**	0: Neutral (N/A)	0	1: Small positive (Small positive fit)	1	0: Neutral (N/A)	0	1: Small positive (Small positive fit)	1	2: Medium positive (Medium positive fit)	2	0: Neutral (N/A)	0	**0.67**
5	**Scotland Farm**	0: Neutral (N/A)	0	1: Small positive (Small positive fit)	1	0: Neutral (N/A)	0	1: Small positive (Small positive fit)	1	2: Medium positive (Medium positive fit)	2	0: Neutral (N/A)	0	**0.67**
6	**Bourn airfield**	0: Neutral (N/A)	0	1: Small positive (Small positive fit)	1	0: Neutral (N/A)	0	1: Small positive (Small positive fit)	1	2: Medium positive (Medium positive fit)	2	0: Neutral (N/A)	0	**0.67**
7	**North of Cambourne**	0: Neutral (N/A)	0	1: Small positive (Small positive fit)	1	0: Neutral (N/A)	0	1: Small positive (Small positive fit)	1	2: Medium positive (Medium positive fit)	2	0: Neutral (N/A)	0	**0.67**
8	**Caxton Gibbet**	0: Neutral (N/A)	0	1: Small positive (Small positive fit)	1	0: Neutral (N/A)	0	1: Small positive (Small positive fit)	1	2: Medium positive (Medium positive fit)	2	0: Neutral (N/A)	0	**0.67**

No.	Name	Alignment with the Greater Cambridge City Deal Transport Vision										
		Accessibility by Public transport		Accessibility by cycle		Acessibility on foot		Congestion (i.e. traffic delays)		Traffic levels (i.e. total volume of traffic)	0	WEIGHTED AVERAGE
		Select from list:										
0	**Existing Madingley Road Park and Ride**	2: Medium positive (Medium improvement to accessibility)	2	0: Neutral (No change)	0	0: Neutral (No change)	0	0: Neutral (No change)	0	1: Small positive (Some reduction in traffic levels)	1	**0.60**
1	**Madingley Mulch North East (site adjacent to SSSI north of A1303)**	2: Medium positive (Medium improvement to accessibility)	2	3: Large positive (Large improvement to accessibility)	3	0: Neutral (No change)	0	2: Medium positive (Medium reduction in traffic levels)	2	1: Small positive (Some reduction in traffic levels)	1	**1.60**
2	**Madingley Mulch North West (often referred to as Park Farm)**	2: Medium positive (Medium improvement to accessibility)	2	3: Large positive (Large improvement to accessibility)	3	0: Neutral (No change)	0	2: Medium positive (Medium reduction in traffic levels)	2	1: Small positive (Some reduction in traffic levels)	1	**1.60**
3	**Madingley Mulch South West (Often referred to as water works site)**	2: Medium positive (Medium improvement to accessibility)	2	3: Large positive (Large improvement to accessibility)	3	0: Neutral (No change)	0	2: Medium positive (Medium reduction in traffic levels)	2	1: Small positive (Some reduction in traffic levels)	1	**1.60**
4	**Madingley Mulch South East (often referred to as Chrome Lea)**	2: Medium positive (Medium improvement to accessibility)	2	3: Large positive (Large improvement to accessibility)	3	0: Neutral (No change)	0	2: Medium positive (Medium reduction in traffic levels)	2	1: Small positive (Some reduction in traffic levels)	1	**1.60**
5	**Scotland Farm**	1: Small positive (Some improved accessibility)	1	2: Medium positive (Medium improvement to accessibility)	2	0: Neutral (No change)	0	2: Medium positive (Medium reduction in traffic levels)	2	1: Small positive (Some reduction in traffic levels)	1	**1.20**
6	**Bourn airfield**	1: Small positive (Some improved accessibility)	1	2: Medium positive (Medium improvement to accessibility)	2	0: Neutral (No change)	0	2: Medium positive (Medium reduction in traffic levels)	2	1: Small positive (Some reduction in traffic levels)	1	**1.20**
7	**North of Cambourne**	1: Small positive (Some improved accessibility)	1	2: Medium positive (Medium improvement to accessibility)	2	0: Neutral (No change)	0	2: Medium positive (Medium reduction in traffic levels)	2	1: Small positive (Some reduction in traffic levels)	1	**1.20**
8	**Caxton Gibbet**	1: Small positive (Some improved accessibility)	1	1: Small positive (Some improved accessibility)	1	0: Neutral (No change)	0	2: Medium positive (Medium reduction in traffic levels)	2	1: Small positive (Some reduction in traffic levels)	1	**1.00**

No.	Name	Alignment with Published Plans											WEIGHTED SCORE FOR THEME
		Draft Local Plan for Cambridge (2014)		Draft Local Plan for South Cambridgeshire (2014)		Cambridgeshire Local Transport Plan 2011 - 2031		Transport Strategy for Cambridge and South Cambridge		Greenbelt		WEIGHTED AVERAGE	
		Select from list:											
0	**Existing Madingley Road Park and Ride**	1: Small positive (Small positive fit)	1	2: Medium positive (Medium positive fit)	2	1: Small positive (Small positive fit)	1	1: Small positive (Small positive fit)	1	0: Neutral (N/A)	0	**1.00**	**0.76**
1	**Madingley Mulch North East (site adjacent to SSSI north of A1303)**	1: Small positive (Small positive fit)	1	2: Medium positive (Medium positive fit)	2	2: Medium positive (Medium positive fit)	2	2: Medium positive (Medium positive fit)	2	-2: Medium negative (Medium negative fit)	-2	**1.00**	**1.09**
2	**Madingley Mulch North West (often referred to as Park Farm)**	1: Small positive (Small positive fit)	1	2: Medium positive (Medium positive fit)	2	2: Medium positive (Medium positive fit)	2	2: Medium positive (Medium positive fit)	2	-2: Medium negative (Medium negative fit)	-2	**1.00**	**1.09**
3	**Madingley Mulch South West (Often referred to as water works site)**	1: Small positive (Small positive fit)	1	2: Medium positive (Medium positive fit)	2	2: Medium positive (Medium positive fit)	2	2: Medium positive (Medium positive fit)	2	-2: Medium negative (Medium negative fit)	-2	**1.00**	**1.09**
4	**Madingley Mulch South East (often referred to as Chrome Lea)**	1: Small positive (Small positive fit)	1	2: Medium positive (Medium positive fit)	2	2: Medium positive (Medium positive fit)	2	2: Medium positive (Medium positive fit)	2	-2: Medium negative (Medium negative fit)	-2	**1.00**	**1.09**
5	**Scotland Farm**	1: Small positive (Small positive fit)	1	2: Medium positive (Medium positive fit)	2	2: Medium positive (Medium positive fit)	2	2: Medium positive (Medium positive fit)	2	-1: Small negative (Small negative fit)	-1	**1.20**	**1.02**
6	**Bourn airfield**	1: Small positive (Small positive fit)	1	2: Medium positive (Medium positive fit)	2	2: Medium positive (Medium positive fit)	2	2: Medium positive (Medium positive fit)	2	0: Neutral (N/A)	0	**1.40**	**1.09**
7	**North of Cambourne**	1: Small positive (Small positive fit)	1	2: Medium positive (Medium positive fit)	2	2: Medium positive (Medium positive fit)	2	2: Medium positive (Medium positive fit)	2	0: Neutral (N/A)	0	**1.75**	**1.21**
8	**Caxton Gibbet**	1: Small positive (Small positive fit)	1	2: Medium positive (Medium positive fit)	2	2: Medium positive (Medium positive fit)	2	2: Medium positive (Medium positive fit)	2	0: Neutral (N/A)	0	**1.75**	**1.14**

CAMBOURNE TO CAMBRIDGE BETTER BUS JOUREYS - PAR SITE SHORTLIST SELECTION
INVESTMENT SIFTING AND EVALUATION TOOL (INSET)

1B. INTERMEDIATE LEVEL THEME - BENEFITS

No.	Name	Transport Benefits																						Passenger experience										Environmental and social issues																Wider Economic Benefits						WEIGHTED SCORE FOR THEME
		Journey Time		Ease of interchange between modes		Accomodates forecast patronage		Public transport connectivity		Private vehicles connectivity		Walking Connectivity		Cycling Connectivity		WEIGHTED AVERAGE	Safety		Shelter provision		Impact on the mobility impaired		Wayfinding		Congestion		WEIGHTED AVERAGE	Noise		Air Quality and Greenhouse Gases		Landscape / Townscape		Biodiversity		Historic Environment		Flood Risk		Water Quality - Surface Water		Water Quality - Groundwater		Impact on Society		WEIGHTED AVERAGE	Wider Economic Benefits(e.g. GVA)		Impact on areas of deprivation		WEIGHTED AVERAGE	
		Select from list:				*Select from list:*											*Select from list:*																*Select from list:*																						
0	Existing Madingley Road Park and Ride	0: Neutral (No change)	0	0: Neutral (No change)	0	1: Small positive (Small increase in capacity)	1	0: Neutral (No change)	0	0: Neutral (No change)	0	0: Neutral (No change)	0	0: Neutral (No change)	0	0.14	2: Medium positive (Medium improvements to safety)	2	2: Medium positive (Medium increase in shelter provision)	2	2: Medium positive (Medium improvement 2 for mobility impaired)	2	2: Medium positive (Medium improvements to wayfinding)	2	2: Medium positive (Medium reduction in congestion)	2	1.60	-1: Small negative (small number of adverse effects, can be mitigated)	-1	-1: Small negative (small number of adverse effects, can be mitigated)	-1	-1: Small negative (small number of adverse effects, can be mitigated)	-1	0: Neutral (N/A)	0	-1: Small negative (small number of adverse effects, can be mitigated)	-1	0: Neutral (N/A)	0	0: Neutral (N/A)	0	2: Medium negative (Potentially significant adverse effects, can be mitigated)	-2	0: Neutral (N/A)	0	-0.67	0: Neutral (N/A)	0	0: Neutral (N/A)	0	0.00	0.27
1	Madingley Mulch North East (site adjacent to SSSI north of A1303)	1: Small positive (Some reduction in journey times)	1	2: Medium positive (Medium improvement 2 to interchange)	2	2: Medium positive (Medium increase in capacity)	2	0: Neutral (No change)	0	3: Large positive (Large improvement 3 to connectivity)	3	0: Neutral (No change)	0	2: Medium positive (Medium improvement 2 to connectivity)	2	1.43	2: Medium positive (Medium improvements to safety)	2	2: Medium positive (Medium increase in shelter provision)	2	2: Medium positive (Medium improvement 2 for mobility impaired)	2	2: Medium positive (Medium improvements to wayfinding)	2	2: Medium positive (Medium reduction in congestion)	2	3.60	-2: Medium negative (Potentially significant adverse effects, can be mitigated)	-2	-2: Medium negative (Potentially significant adverse effects, can be mitigated)	-2	-3: Large negative (Significant adverse effect, difficult to mitigate)	-3	-2: Medium negative (Potentially significant adverse effects, can be mitigated)	-2	-1: Small negative (small number of adverse effects, can be mitigated)	-1	0: Neutral (N/A)	0	0: Neutral (N/A)	0	-2: Medium negative (Potentially significant adverse effects, can be mitigated)	-2	-2: Medium negative (Potentially significant adverse effects, can be mitigated)	-2	-1.44	0: Neutral (N/A)	0	0: Neutral (N/A)	0	0.00	0.90
2	Madingley Mulch North West (often referred to as Park Farm)	1: Small positive (Some reduction in journey times)	1	2: Medium positive (Medium improvement 2 to interchange)	2	2: Medium positive (Medium increase in capacity)	2	0: Neutral (No change)	0	3: Large positive (Large improvement 3 to connectivity)	3	0: Neutral (No change)	0	2: Medium positive (Medium improvement 2 to connectivity)	2	1.43	2: Medium positive (Medium improvements to safety)	2	2: Medium positive (Medium increase in shelter provision)	2	2: Medium positive (Medium improvement 2 for mobility impaired)	2	2: Medium positive (Medium improvements to wayfinding)	2	2: Medium positive (Medium reduction in congestion)	2	3.60	-2: Medium negative (Potentially significant adverse effects, can be mitigated)	-2	-2: Medium negative (Potentially significant adverse effects, can be mitigated)	-2	-3: Large negative (Significant adverse effect, difficult to mitigate)	-3	-2: Medium negative (Potentially significant adverse effects, can be mitigated)	-2	-1: Small negative (small number of adverse effects, can be mitigated)	-1	0: Neutral (N/A)	0	0: Neutral (N/A)	0	-2: Medium negative (Potentially significant adverse effects, can be mitigated)	-2	-2: Medium negative (Potentially significant adverse effects, can be mitigated)	-2	-1.22	0: Neutral (N/A)	0	0: Neutral (N/A)	0	0.00	0.95
3	Madingley Mulch South West (Often referred to as water works site)	1: Small positive (Some reduction in journey times)	1	2: Medium positive (Medium improvement 2 to interchange)	2	2: Medium positive (Medium increase in capacity)	2	0: Neutral (No change)	0	3: Large positive (Large improvement 3 to connectivity)	3	0: Neutral (No change)	0	2: Medium positive (Medium improvement 2 to connectivity)	2	1.43	2: Medium positive (Medium improvements to safety)	2	2: Medium positive (Medium increase in shelter provision)	2	2: Medium positive (Medium improvement 2 for mobility impaired)	2	2: Medium positive (Medium improvements to wayfinding)	2	2: Medium positive (Medium reduction in congestion)	2	3.60	0: Neutral (N/A)	0	0: Neutral (N/A)	0	-3: Large negative (Significant adverse effect, difficult to mitigate)	-3	2: Medium negative (Potentially significant adverse effects, can be mitigated)	2	0: Neutral (N/A)	0	0: Neutral (N/A)	0	0: Neutral (N/A)	0	2: Medium negative (Potentially significant adverse effects, can be mitigated)	2	2: Medium negative (Potentially significant adverse effects, can be mitigated)	2	-0.78	0: Neutral (N/A)	0	0: Neutral (N/A)	0	0.00	1.06
4	Madingley Mulch South East (often referred to as Chrome Lea)	1: Small positive (Some reduction in journey times)	1	2: Medium positive (Medium improvement 2 to interchange)	2	2: Medium positive (Medium increase in capacity)	2	0: Neutral (No change)	0	3: Large positive (Large improvement 3 to connectivity)	3	0: Neutral (No change)	0	2: Medium positive (Medium improvement 2 to connectivity)	2	1.43	2: Medium positive (Medium improvements to safety)	2	2: Medium positive (Medium increase in shelter provision)	2	2: Medium positive (Medium improvement 2 for mobility impaired)	2	2: Medium positive (Medium improvements to wayfinding)	2	2: Medium positive (Medium reduction in congestion)	2	3.60	-2: Medium negative (Potentially significant adverse effects, can be mitigated)	-2	-2: Medium negative (Potentially significant adverse effects, can be mitigated)	-2	-3: Large negative (Significant adverse effect, difficult to mitigate)	-3	-2: Medium negative (Potentially significant adverse effects, can be mitigated)	-2	-1: Small negative (small number of adverse effects, can be mitigated)	-1	0: Neutral (N/A)	0	0: Neutral (N/A)	0	-2: Medium negative (Potentially significant adverse effects, can be mitigated)	-2	-2: Medium negative (Potentially significant adverse effects, can be mitigated)	-2	-1.33	0: Neutral (N/A)	0	0: Neutral (N/A)	0	0.00	0.92
5	Scotland Farm	1: Small positive (Some reduction in journey times)	1	2: Medium positive (Medium improvement 2 to interchange)	2	2: Medium positive (Medium increase in capacity)	2	0: Neutral (No change)	0	3: Large positive (Large improvement 3 to connectivity)	3	0: Neutral (No change)	0	2: Medium positive (Medium improvement 2 to connectivity)	2	1.43	2: Medium positive (Medium improvements to safety)	2	2: Medium positive (Medium increase in shelter provision)	2	2: Medium positive (Medium improvement 2 for mobility impaired)	2	2: Medium positive (Medium improvements to wayfinding)	2	2: Medium positive (Medium reduction in congestion)	2	3.60	-2: Medium negative (Potentially significant adverse effects, can be mitigated)	-2	0: Neutral (N/A)	0	-2: Medium negative (Potentially significant adverse effects, can be mitigated)	-2	0: Neutral (N/A)	0	-1: Small negative (small number of adverse effects, can be mitigated)	-1	0: Neutral (N/A)	0	-1: Small negative (small number of adverse effects, can be mitigated)	-1	-2: Medium negative (Potentially significant adverse effects, can be mitigated)	-2	-2: Medium negative (Potentially significant adverse effects, can be mitigated)	-2	-0.78	0: Neutral (N/A)	0	0: Neutral (N/A)	0	0.00	1.06
6	Boum airfield	1: Small positive (Some reduction in journey times)	1	2: Medium positive (Medium improvement 2 to interchange)	2	2: Medium positive (Medium increase in capacity)	2	0: Neutral (No change)	0	1: Small positive (Some improvement 1 to connectivity)	1	0: Neutral (No change)	0	2: Medium positive (Medium improvement 2 to connectivity)	2	1.14	2: Medium positive (Medium improvements to safety)	2	2: Medium positive (Medium increase in shelter provision)	2	2: Medium positive (Medium improvement 2 for mobility impaired)	2	2: Medium positive (Medium improvements to wayfinding)	2	2: Medium positive (Medium reduction in congestion)	2	3.60	0: Neutral (N/A)	0	0: Neutral (N/A)	0	2: Medium positive (Potentially significant beneficial effects)	2	0: Neutral (N/A)	0	0: Neutral (N/A)	0	0: Neutral (N/A)	0	0: Neutral (N/A)	0	-1: Small negative (small number of adverse effects, can be mitigated)	-1	-2: Medium negative (Potentially significant adverse effects, can be mitigated)	-2	0: Neutral (N/A)	0	-0.11	0: Neutral (N/A)	0	0: Neutral (N/A)	0	0.00	1.16
7	North of Cambourne	1: Small positive (Some reduction in journey times)	1	2: Medium positive (Medium improvement 2 to interchange)	2	2: Medium positive (Medium increase in capacity)	2	0: Neutral (No change)	0	3: Large positive (Large improvement 3 to connectivity)	3	0: Neutral (No change)	0	2: Medium positive (Medium improvement 2 to connectivity)	2	1.43	2: Medium positive (Medium improvements to safety)	2	2: Medium positive (Medium increase in shelter provision)	2	2: Medium positive (Medium improvement 2 for mobility impaired)	2	2: Medium positive (Medium improvements to wayfinding)	2	2: Medium positive (Medium reduction in congestion)	2	3.60	0: Neutral (N/A)	0	0: Neutral (N/A)	0	-1: Small negative (small number of adverse effects, can be mitigated)	-1	0: Neutral (N/A)	0	0: Neutral (N/A)	0	0: Neutral (N/A)	0	-1: Small negative (small number of adverse effects, can be mitigated)	-1	-1: Small negative (small number of adverse effects, can be mitigated)	-1	-1: Small negative (small number of adverse effects, can be mitigated)	-1	-0.44	0: Neutral (N/A)	0	0: Neutral (N/A)	0	0.00	1.15
8	Caxton Gibbet	1: Small positive (Some reduction in journey times)	1	2: Medium positive (Medium improvement 2 to interchange)	2	2: Medium positive (Medium increase in capacity)	2	0: Neutral (No change)	0	3: Large positive (Large improvement 3 to connectivity)	3	0: Neutral (No change)	0	1: Small positive (Some improvement 1 to connectivity)	1	1.29	2: Medium positive (Medium improvements to safety)	2	2: Medium positive (Medium increase in shelter provision)	2	2: Medium positive (Medium improvement 2 for mobility impaired)	2	2: Medium positive (Medium improvements to wayfinding)	2	2: Medium positive (Medium reduction in congestion)	2	3.60	0: Neutral (N/A)	0	0: Neutral (N/A)	0	-1: Small negative (small number of adverse effects, can be mitigated)	-1	0: Neutral (N/A)	0	0: Neutral (N/A)	0	0: Neutral (N/A)	0	-1: Small negative (small number of adverse effects, can be mitigated)	-1	-1: Small negative (small number of adverse effects, can be mitigated)	-1	0: Neutral (N/A)	0	-0.56	0: Neutral (N/A)	0	0: Neutral (N/A)	0	0.00	1.08

CAMBOURNE TO CAMBRIDGE BETTER BUS JOUREYS - P&R SITE SHORTLIST SELECTION
INVESTMENT SIFTING AND EVALUATION TOOL (INSET)

1C. OPERATIONAL THEME - DELIVERABILITY

No.	Name	Planning Issues															Engineering Issues				Costs						Scalability						WEIGHTED SCORE FOR THEME
		Land acquisition required		Interaction with planned developments		Impact on land use		Public acceptability		Business acceptability		WEIGHTED AVERAGE					Impact on local road network during construction		WEIGHTED AVERAGE		Capital costs		Operating costs		WEIGHTED AVERAGE			Scalability		Resilience		WEIGHTED AVERAGE		
		Select from list:															*Select from list:*				*Select from list:*						*Select from list:*						
0	**Existing Madingley Road Park and Ride**	-2: Medium negative (TBD depending on project)	-2	0: Neutral (TBD depending on project)	0	0: Neutral (TBD depending on project)	0	1: Small positive (TBD depending on project)	1	2: Medium positive (TBD depending on project)	2	**0.20**					0: Neutral (No impact))	0	**0.00**		-2: Medium negative (TBD depending on project)	-2	0: Neutral (TBD depending on project)	0	**-1.00**			0: Neutral (TBD depending on project)	0	0: Neutral (TBD depending on project)	0	**0.00**		**-0.20**
1	**Madingley Mulch North East (site adjacent to SSSI north of A1303)**	-1: Small negative (TBD depending on project)	-1	0: Neutral (TBD depending on project)	0	-1: Small negative (TBD depending on project)	-1	-2: Medium negative (TBD depending on project)	-2	2: Medium positive (TBD depending on project)	2	**-0.40**					-2: Medium negative (Medium impact on road network	-2	**-2.00**		-2: Medium negative (TBD depending on project)	-2	-1: Small negative (TBD depending on project)	-1	**-1.50**			0: Neutral (TBD depending on project)	0	0: Neutral (TBD depending on project)	0	**0.00**		**-0.98**
2	**Madingley Mulch North West (often referred to as Park Farm)**	-1: Small negative (TBD depending on project)	-1	0: Neutral (TBD depending on project)	0	-1: Small negative (TBD depending on project)	-1	-2: Medium negative (TBD depending on project)	-2	2: Medium positive (TBD depending on project)	2	**-0.40**					-2: Medium negative (Medium impact on road network	-2	**-2.00**		-2: Medium negative (TBD depending on project)	-2	-1: Small negative (TBD depending on project)	-1	**-1.50**			0: Neutral (TBD depending on project)	0	0: Neutral (TBD depending on project)	0	**0.00**		**-0.98**
3	**Madingley Mulch South West (Often referred to as water works site)**	-1: Small negative (TBD depending on project)	-1	0: Neutral (TBD depending on project)	0	-1: Small negative (TBD depending on project)	-1	-2: Medium negative (TBD depending on project)	-2	2: Medium positive (TBD depending on project)	2	**-0.40**					-1: Small negative (Small impact on road network)	-1	**-1.00**		-2: Medium negative (TBD depending on project)	-2	-1: Small negative (TBD depending on project)	-1	**-1.50**			0: Neutral (TBD depending on project)	0	0: Neutral (TBD depending on project)	0	**0.00**		**-0.73**
4	**Madingley Mulch South East (often referred to as Chrome Lea)**	-1: Small negative (TBD depending on project)	-1	0: Neutral (TBD depending on project)	0	-1: Small negative (TBD depending on project)	-1	-2: Medium negative (TBD depending on project)	-2	2: Medium positive (TBD depending on project)	2	**-0.40**					-1: Small negative (Small impact on road network)	-1	**-1.00**		-2: Medium negative (TBD depending on project)	-2	-1: Small negative (TBD depending on project)	-1	**-1.50**			0: Neutral (TBD depending on project)	0	0: Neutral (TBD depending on project)	0	**0.00**		**-0.73**
5	**Scotland Farm**	-1: Small negative (TBD depending on project)	-1	0: Neutral (TBD depending on project)	0	-1: Small negative (TBD depending on project)	-1	0: Neutral (TBD depending on project)	0	0: Neutral (TBD depending on project)	0	**-0.40**					0: Neutral (No impact))	0	**0.00**		-2: Medium negative (TBD depending on project)	-2	-2: Medium negative (TBD depending on project)	-2	**-2.00**			0: Neutral (TBD depending on project)	0	0: Neutral (TBD depending on project)	0	**0.00**		**-0.60**
6	**Bourn airfield**	-1: Small negative (TBD depending on project)	-1	0: Neutral (TBD depending on project)	0	0: Neutral (TBD depending on project)	0	1: Small positive (TBD depending on project)	1	0: Neutral (TBD depending on project)	0	**0.00**					0: Neutral (No impact))	0	**0.00**		-2: Medium negative (TBD depending on project)	-2	-2: Medium negative (TBD depending on project)	-2	**-2.00**			0: Neutral (TBD depending on project)	0	0: Neutral (TBD depending on project)	0	**0.00**		**-0.50**
7	**North of Cambourne**	-1: Small negative (TBD depending on project)	-1	0: Neutral (TBD depending on project)	0	-1: Small negative (TBD depending on project)	-1	0: Neutral (TBD depending on project)	0	0: Neutral (TBD depending on project)	0	**-0.40**					0: Neutral (No impact))	0	**0.00**		-2: Medium negative (TBD depending on project)	-2	-2: Medium negative (TBD depending on project)	-2	**-2.00**			0: Neutral (TBD depending on project)	0	0: Neutral (TBD depending on project)	0	**0.00**		**-0.60**
8	**Caxton Gibbet**	-1: Small negative (TBD depending on project)	-1	0: Neutral (TBD depending on project)	0	-1: Small negative (TBD depending on project)	-1	0: Neutral (TBD depending on project)	0	0: Neutral (TBD depending on project)	0	**-0.40**					-2: Medium negative (Medium impact on road network	-2	**-2.00**		-2: Medium negative (TBD depending on project)	-2	-3: Large negative (TBD depending on project)	-3	**-2.50**			0: Neutral (TBD depending on project)	0	0: Neutral (TBD depending on project)	0	**0.00**		**-1.23**

CAMBOURNE TO CAMBRIDGE BETTER BUS JOUREYS - P&R SITE SHORTLIST SELECTION
INVESTMENT SIFTING AND EVALUATION TOOL (INSET)

2A. MULTI-CRITERIA ANALYSIS - SUMMARY					
No.	**Name**	**1A.HIGH LEVEL THEME - POLICY ALIGNMENT**	**1B. INTERMEDIATE LEVEL THEME - BENEFITS**	**1C. OPERATIONAL THEME - DELIVERABILITY**	**WEIGHTED AVERAGE**
		Final weighted score (-3 to 3 scale):	*Final weighted score (-3 to 3 scale):*	*Final weighted score (-3 to 3 scale):*	
0	Existing Madingley Road Park and Ride	0.76	0.27	-0.20	0.27
1	Madingley Mulch North East (site adjacent to SSSI north of A1303)	1.09	0.90	-0.98	0.34
2	Madingley Mulch North West (often referred to as Park Farm)	1.09	0.95	-0.98	0.36
3	Madingley Mulch South West (Often referred to as water works site)	1.09	1.06	-0.73	0.48
4	Madingley Mulch South East (often referred to as Chrome Lea)	1.09	0.92	-0.73	0.43
5	Scotland Farm	1.02	1.06	-0.60	0.49
6	Bourn airfield	1.09	1.16	-0.50	0.58
7	North of Cambourne	1.21	1.15	-0.60	0.58
8	Caxton Gibbet	1.14	1.08	-1.23	0.33

2B. MULTI-CRITERIA ANALYSIS - SUMMARY IN ORDER					
No.	Name	1A.HIGH LEVEL THEME - POLICY ALIGNMENT	1B. INTERMEDIATE LEVEL THEME - BENEFITS	1C. OPERATIONAL THEME - DELIVERABILITY	WEIGHTED AVERAGE
		Final weighted score (-3 to 3 scale):	*Final weighted score (-3 to 3 scale):*	*Final weighted score (-3 to 3 scale):*	
6	Bourn airfield	1.09	1.16	-0.50	0.58
7	North of Cambourne	1.21	1.15	-0.60	0.58
5	Scotland Farm	1.02	1.06	-0.60	0.49
3	Madingley Mulch South West (Often referred to as water works site)	1.09	1.06	-0.73	0.48
4	Madingley Mulch South East (often referred to as Chrome Lea)	1.09	0.92	-0.73	0.43
2	Madingley Mulch North West (often referred to as Park Farm)	1.09	0.95	-0.98	0.36
1	Madingley Mulch North East (site adjacent to SSSI north of A1303)	1.09	0.90	-0.98	0.34
8	Caxton Gibbet	1.14	1.08	-1.23	0.33
0	Existing Madingley Road Park and Ride	0.76	0.27	-0.20	0.27

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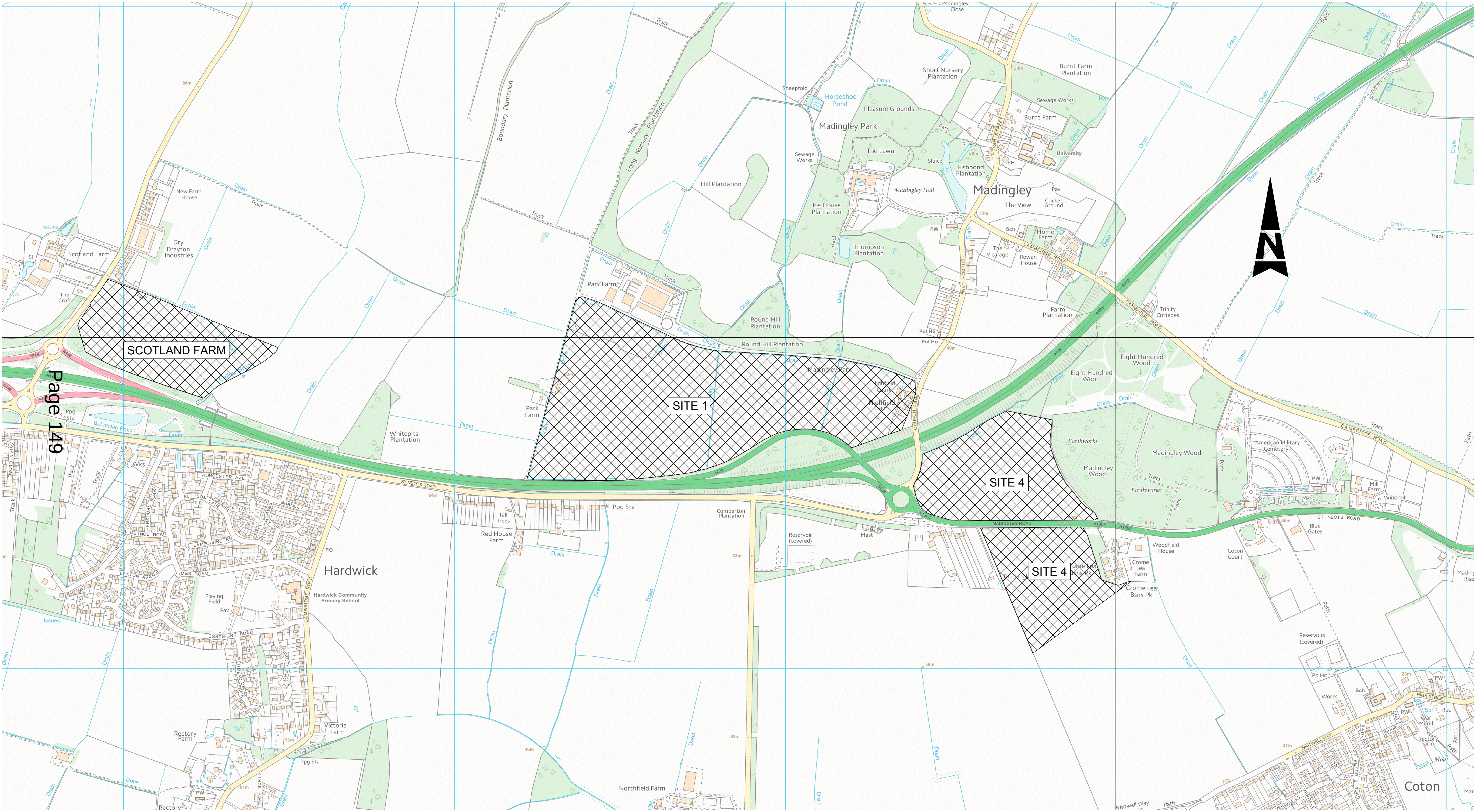

SCOTLAND FARM
SITE 1
SITE 4
SITE 4
N
Madingley
Madingley Park
Madingley Hall
Hardwick
Hardwick Community Primary School
Coton
American Military Cemetery
Madingley Wood
Eight Hundred Wood
Scotland Farm
Dry Drayton Industries
New Farm House
Park Farm
Round Hill Plantation
Highfield Court
Highfield Farm
Crome Lea Farm
Crome Lea Bsns Pk
Woodfield House
Comberton Plantation
Whitepits Plantation
Red House Farm
Tall Trees
Northfield Farm
Victoria Farm
Rectory Farm
ST NEOTS ROAD
MADINGLEY ROAD
CAMBRIDGE ROAD
CHURCH LANE
HIGH STREET
A428
A1303

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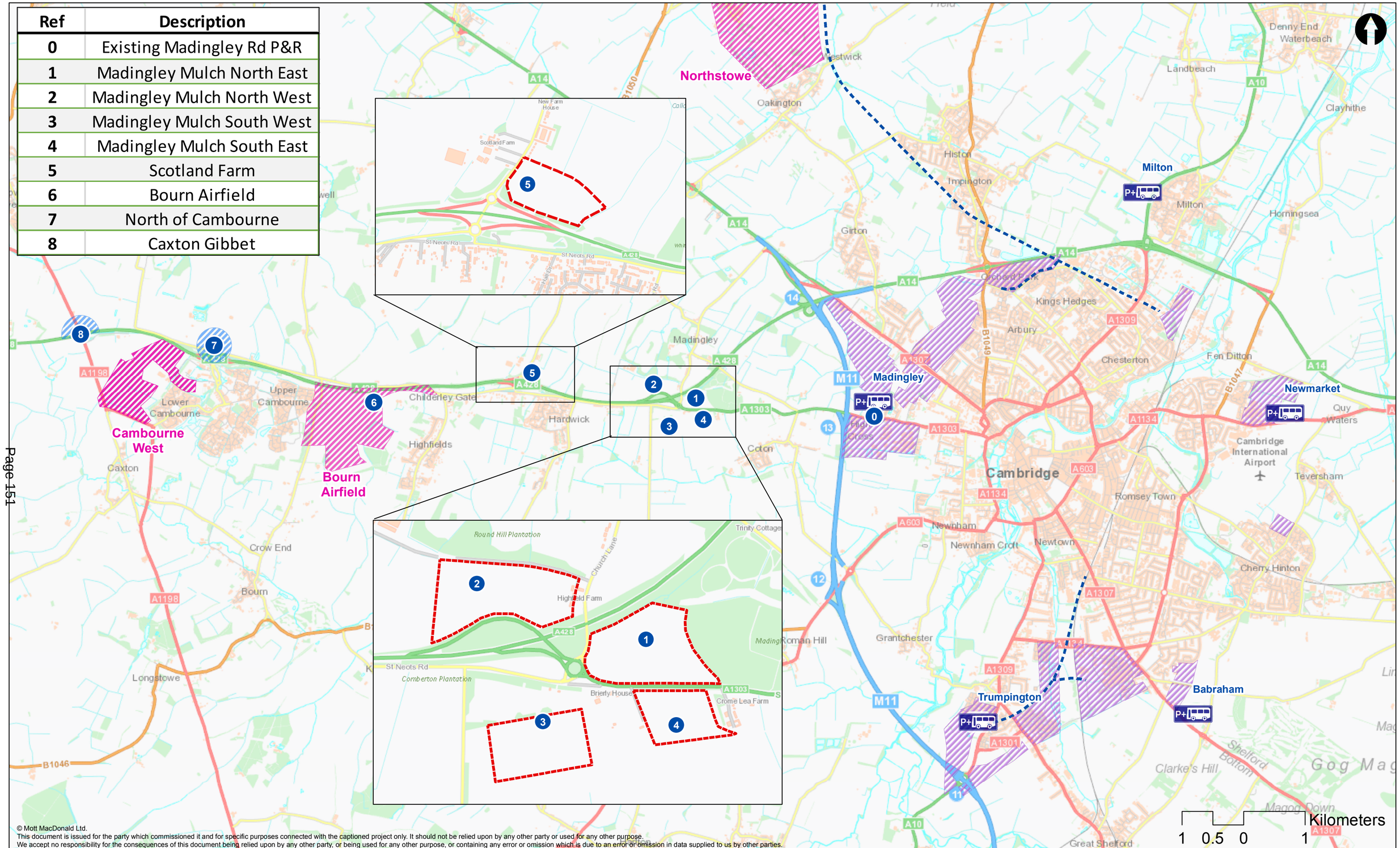
Ref	Description
0	Existing Madingley Rd P&R
1	Madingley Mulch North East
2	Madingley Mulch North West
3	Madingley Mulch South West
4	Madingley Mulch South East
5	Scotland Farm
6	Bourn Airfield
7	North of Cambourne
8	Caxton Gibbet



Kilometers
1 0.5 0 1

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Client

Cambridgeshire County Council

Key to Symbols

- Planned new settlements
- Cambridge areas 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	Ch'k'd	App'd
A	03/05/2017	LDG	Initial draft for discussion only - to be researched	TF	JB
B	03/05/2017	JE	Second Issue	TF	JB

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

Drawn	J.Eades	JE
Checked	T.Fawcett	TF
Approved	J.Baker	JB
Scale at A2	1:40,000	

Drawing Number	Security	Status	Rev
377897-MMD-00-XX-GIS-Y-Location Map-001	STD	PRE	P1

P:\Cambridge\Demeter\EVT\Projects\349260 Cambridge Access Study\Mxds\377897-MMD-00-XX-GIS-Y-0001_Car Park Locations_.mxd

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8.1 Comparison of Options and rationale

Table 15. Option 1, 6 and 3a Comparative Performance MCAF using LLF Criteria

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			Option 1			Option 6			Option 3a		
Criteria	**Notes / Data**	**Details / Metrics**	**Metric**	**Score**	**Rationale**	**Metric**	**Score**	**Rationale**	**Metric**	**Score**	**Rationale**
Journey Times	Journey times have been calculated based on existing on-board real-time bus data for buses on Madingley Road, on the Cambridgeshire Guided Busway and on bus lanes. The assessment assumes an allowance for acceleration and deceleration between stops. Inbound and outbound journey times have been assessed separately. If there was an express service for all options which travelled between Cambourne a Park and Ride Site, West Cambridge and Grange Road the journey times in the AM peak inbound are likely to be as follows: Option 1 = 22mins, Opt 6 = 21, Opt 3a = 17 mins.	Inbound – AM/PM Peak (Stopping)	30	3	Options 1 and 6 have journey times within two minutes of one another. It has been concluded that there is insufficient perceivable difference in the journey time for this stage of assessment. They are therefore considered neutral.	28	3	Options 1 and 6 have journey times within two minutes of one another. It has been concluded that there is insufficient perceivable difference in the journey time for this stage of assessment. They are therefore considered neutral.	20	5	Option 3 offers a significant (highly perceivable) reduction in journey times compared to Options 1 and 6. The journey time is considered 'very good'.
		Outbound – AM/PM Peak (Stopping)	33	3		31	3		26	5	
		Average Score	31.5	3		29.5	3		23	5	
	Fast service - theoretical non-stop journey time for all options based on a route of Cambourne to Cambridge stopping at a Park and Ride Site and West Cambridge.	Inbound – AM/PM Peak (Express)	22	3		21	4		17	5	
		Outbound – AM/PM Peak (Express)	21			19			17		
Bus Frequency	It is proposed that 9 buses an hour will route between Cambourne and Cambridge. 3 will continue to Cambridge North Station. 6 services will access the City Centre of which 3 would continue to Addenbrookes. Should the Western Orbital Scheme come forward the latter services would operate along the Western Orbital	AM Peak, buses per hour, inbound Note that this does not indicate the capacity of each Option, which will be assessed separately.	9	3	Initial agreed assumption.	9	3	Initial agreed assumption.	9	3	Initial agreed assumption.
Journey time variability (based on current traffic conditions)	A comparison of the potential improvement in journey time variability compared to the current Citi4 service, based on existing traffic conditions during peak hours.	Potential % improvement in journey time variability in the peak hour, compared to Citi4		TBC			TBC			TBC	
				TBC			TBC			TBC	
Capital out-turn costs (not including cost of Park and Ride site)	Surveyor assessment. Not equivalent to Value for Money (see BCR below) These costs include all infrastructure costs between Cambourne and Cambridge and do not include land costs	£(2010 basis)	£11,531,900	5	Score based on linear interpolation.	£18,972,000	4	Score based on linear interpolation.	£77,185,000	1	Score based on linear interpolation.
High Level BCR		To be included following further analysis	TBC	TBC		TBC	TBC		TBC	TBC	
Landscape and Visual / Heritage	As per assessment in the SOBC – on a 7-point scale (Large Adverse – Large Beneficial) (pre-mitigation)	Relative change from current situation; desk-top assessment	Slight Adverse	3	Some visual intrusion and impacts on vegetation specifically at the Park and Ride site, details below	Moderate Adverse	2	Greater visual intrusion and change of landscape character as a result of the required gantries	Moderate Adverse	1	Impact on public open space and agricultural land on the offline alignment.
Air Pollution	As per assessment in the SOBC – on a 7-point scale– change in CO2 emissions and total change in air quality over 60-year appraisal period. Assumed Option 6 is Similar to Option 1 with respect to air pollution.	Relative change from current situation; desk-top assessment	Moderate Adverse	3	Potential for an adverse impact in Cambridge city centre as a result of an increase in bus traffic. Potential offset due to mode shift and reduction in veh-km have not been considered at this stage.	Moderate Adverse	3	Potential for an adverse impact in Cambridge city centre as a result of an increase in bus traffic. Potential offset due to mode shift and reduction in veh-km have not been considered at this stage.	Moderate Adverse	3	Potential for an adverse impact in Cambridge city centre as a result of an increase in bus traffic. Potential offset due to mode shift and reduction in veh-km have not been considered at this stage.
Noise Impact	As per assessment in the SOBC – on a 7-point scale - change in noise impacts on receptors, such as households	Relative change from current situation; desk-top assessment	Slight Adverse	3		Slight Adverse	3		Moderate Adverse	2	

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			Option 1			Option 6			Option 3a		
Criteria	**Notes / Data**	**Details / Metrics**	**Metric**	**Score**	**Rationale**	**Metric**	**Score**	**Rationale**	**Metric**	**Score**	**Rationale**
Constructability Risk	No full assessment of construction disruption has been undertaken, however the construction impact on Madingley Hill (option 6) is likely to be similar to that caused on the M11 due to the construction of a new bridge.	As per assessment criteria in the SOBC (complexity of delivery)	Medium	2	Significant risk relating to stats diversions and traffic management issues.	High	1	Construction of a mid-carriageway tidal flow lane would be associated with significant disruption, stats issues and traffic management issues. M11 Bridge widening is cheaper than a new bridge, but more complex to deliver (condition of existing structure, hydro demolition etc.).	Lowest	4	New Bridge more straightforward than widening). Fewer stats issues due to greenfield land. Fewer traffic management issues.
Deliverability Risk	Deliverability risk (in terms of planning requirements and permissions) is expected to be lowest where schemes are based on upgrades to existing infrastructure. New infrastructure on greenfield sites is expected to have the highest risk.	As per Oct-2016 Business Case criteria (planning / consents)	Low-Medium	4	CPO required for private land / gardens. Delivered through HA/CPO. Likely to require the least amount of land take.	Medium-High	3	Potential requirement for more land take than Option 1, and related acquisition issues. Delivered through Highways Act / CPO.	Medium-High	2	Potential to negotiate greenfield land without CPO. Delivered through TWA. Requires the most land take.
Time to full implementation	Year of scheme opening	Years	2021	4	c. 18 months for HA / CPO. No Public Enquiry. Established design and planning procedures and experience.	2022	3	c. 18 months for HA / CPO, however the additional land take could increase the time required. No public Enquiry. Design and planning process expected to take longer due to the more complex nature of the scheme, compared to Option 1.	2024	2	TWA slightly quicker than HA/CPO, but objections will lead to public enquiry.
Modal Shift	CSRM2 output	% of commuters from communities along the A428 corridor (Cambourne, Bourn, Caldecote etc.) travelling to Cambridge employment sites using bus services - AM inbound.	27%	3		28%	3		31%	4	
Connectivity	Desktop appraisal of connectivity of options with the proposed Western Orbital Scheme. Options will consider an online, off-line east and off-line west Western Orbital.	To Western Orbital – assuming on-road and off-road		3	Longer travel distance to get to hub, but possible to get directly onto M11. All score neutral due to level of certainty around the hub.		3	Longer travel distance to get to hub, but possible to get directly onto M11. All score neutral due to level of certainty around the hub.		3	Direct access to 'hub' and then onto M11. All score neutral due to level of certainty around the hub.
Policy Fit	Analysis of key policy documents including: Cambridgeshire LTP3 Highways England RIS Greater Cambridge and Peterborough SEP Greater Cambridge Partnership Local Plans for South Cambridgeshire and Cambridge	With broader GCP, Combined Authority	Medium	2	Potential to deliver a HQPT service, however buses are not fully segregated from general traffic and are more likely to suffer from reliability issues as a result.	Medium	2	Potential to deliver a HQPT service, however buses are not fully segregated from general traffic and are more likely to suffer from reliability issues as a result. The Option does not consider wider connectivity, especially towards the Centre, following termination of the Tidal lane. There are more limited opportunities to improve cycle connectivity.	Very Good	5	High strategic fit in terms of delivery of HQPT and segregation of buses from general traffic. Future proofing with respect to development sites and adopting alternative transport systems. Supports connectivity throughout the route.
Stakeholder Support	Based on 2015 consultation responses and subsequent stakeholder engagement. For Option 6 this is based on support from LLF.	Based on 2015 consultation responses and LLF support.		4	More popular than offline		2	Not tested in public consultation.		1	Less popular than online.
Simple total - Not weighted according to any specific criteria		**Total (unweighted)**		51	**Total (unweighted)**		45	**Total (unweighted)**		51	

GREATER CAMBRIDGE PARTNERSHIP

Growing and sharing prosperity

Delivering our City Deal

Report To:	Greater Cambridge Partnership Executive Board	26 July 2017
Lead Officer:	Chris Tunstall, Interim Transport Director	

Cross City Cycling – Determination of Traffic Regulation Orders

Purpose

1. It was agreed at the Executive Board meeting in January 2015 that Cross-City Cycle Improvements should form part of the City Deal prioritised programme. The proposed priority cross-city cycle schemes represent strategic links along key desire lines, linking to employment and growth sites.

2. In August 2015 the Board endorsed the choice of five schemes to take forward to public consultation, in view of the outcomes of a stakeholder event held in March 2015.

3. In June 2016, following public consultation, the five schemes were approved and the overall budget was set at £8 million. Construction work commenced on the first of the schemes late in 2016. More details of the schemes can be seen at: https://www.greatercambridge.org.uk/transport/transport-projects/cross-city-cycling/

4. There are a number of Traffic Regulation Orders (TROs) associated with the schemes, as well as a number of elements which required public notices to be advertised and displayed. This report sets out the objections and comments received to the TROs and items requiring notices, and seeks determination from the Executive Board.

Recommendations

5. It is recommended that the Executive Board:

   a) Note the objections and comments received;
   b) Approve the orders and notices as advertised; and,
   c) Inform the objectors accordingly.
   d) Receive in future only those Orders that have received objections

Reasons for Recommendations

6. The Executive Board approved the five Cross City Cycling schemes in June 2016. Some scheme elements require an additional statutory process to be followed, for which the public have an opportunity to object or comment. The Executive Board are tasked with determining the objections.

7. The elements that are subject to this further statutory process are components of the wider schemes.

8. Only those Orders that have objections need to be referred back to the Board for decision.

Background

9. TROs and formal notices have been advertised for the following five scheme elements:
- Fulbourn Road (Robin Hood junction to ARM main entrance), no waiting at any time.
- Hills Road (Purbeck Road to Addenbrooke's roundabout), a loading ban operating 07.00-10.00 and 16.00-19.00, Monday to Friday, and an extension of no waiting at any time into the length between Long Road and Addenbrooke's main entrance.
- Green End Road (Scotland Road to Water Lane and Evergreens to Kendal Way), no waiting at any time with short length of waiting limited to 2 hours outside the shops.
- Green End Road, proposed 'speed cushions'.
- B1047 Fen Ditton, proposed 'raised table' junction.

Plans of the proposals can be seen in **Appendix A**.

10. The drafting of the orders and notices, and the advertising process was undertaken by the County Council's Policy and Regulation Team in a manner consistent with other orders promoted by the County Council.

11. There were no objections or comments made relating to Fulbourn Road TRO or the 'raised table junction' in Fen Ditton.

12. Objections and letters of support were received for the Hills Road loading ban. These can be seen in a table, together with officer comments in **Appendix B**.

13. Objections and comments were received for Green End Road speed cushions and Green End Road waiting restrictions. These can be seen in a table with officer comments in **Appendix C**.

Considerations and Options

Hills Road proposed peak time loading ban and no waiting at any time

14. Raised cycle lanes are being constructed in the section from Long Road to Addenbrooke's to link into the length already completed from Cherry Hinton Road to Long Road. Vehicles regularly park on the lanes to load and unload to adjacent properties, which requires cyclists to leave and re-join the carriageway in such instances. Though not ideal, it is recognised that deliveries are a part of day to day life, but permitting loading does dilute the effectiveness of a well used, high quality cycle route between the city centre and Addenbrooke's.

15. As a compromise a peak time only loading ban has been proposed, so that the lanes can be kept clear at their busiest times. Deliveries would have to take place outside of these hours, or residents would need to take deliveries from their driveways rather than use the public highway.

16. There have been seven objections, and 15 comments in support.

17. Some of the objections focus on the fact that it will be difficult for residents to have goods delivered as it's not always possible to agree a specific time for deliveries. If

loading or unloading is absolutely necessary during the restricted times, then most properties have scope to receive most types of delivery from their driveways.

18. Other objections refer to the fact that encouraging deliveries from driveways may make the situation more dangerous as delivery vehicles will have to cross the cycle lane and footway twice. On balance this is felt to be safer than allowing loading in the cycle lane and forcing cyclists to rejoin the carriageway at the busiest times of day.

19. Those writing in support refer to the improvements made recently on Hills Road for cycling, and that keeping the lanes free of vehicles loading at the busiest times would make the facility even more attractive and safe.

20. A number of objectors in Hills Road felt that the process did not include enough publicity, and to address this, officers agreed to extend the objection period. The TRO consultation process has been followed, a press notice was published, street notices were put up, and all statutory consultees informed. The Department for Transport recently undertook a consultation into revising the Traffic Regulation Order process, but concluded that the current process is fit for purpose.

Green End Road proposed no waiting at any time and waiting limited to 2 hours

21. In June 2016 the Board approved a scheme for Green End Road which included double yellow lines, subject to advertising a TRO, in the length from Scotland Road to Water Lane, located within resurfaced, red tarmac, advisory cycle lanes.

22. Following the Board meeting local members contacted the Project Team and Councillor Herbert to alert concerns raised by local businesses in this length, as to the negative impact that the new restriction could have on custom and operation of their businesses.

23. Officers met with some local members and discussed a compromise. This is the scheme advertised, and entails retaining a length in front of the businesses as parking limited to two hours, Monday to Friday, between 8am and 6pm, to allow a relatively high turnover of parking spaces outside shops. Parking in this short length would be permissible between 6pm and 8am and on Sundays going some way to address concerns raised by residents regarding losing parking all together in this length of road.

24. Signage is not required for no waiting at any time and is simply demarcated with double yellow lines. Other restrictions do require signs, and if restrictions become complex the signs can appear large and difficult to understand. The two hour limited waiting restriction is a relatively simple, easily understood restriction that can be clearly signed.

25. In terms of the objections, six have commented that the scheme to provide safe cycling would be undermined by allowing parking in the length outside the shops. A further two objectors feel that parking should remain unrestricted in the area as parked cars act as a good form of traffic calming, and residents and their visitors should not lose this facility.

Green End Road proposed speed cushions

26. There has been one objection based around the view that all motorists, even those not speeding are impacted negatively by speed cushions. This is not the case for cushions, compared to full width humps, hence their selection and wide use.

Future Traffic Regulation Orders

27. For all future TROs it is recommended that in future only those TROs with objections be referred back to the Executive Board for decision. All other TROs will be sealed and implemented as advertised.

Implications

28. 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: -

Legal

29. These proposals will be authorised under Traffic Regulation Orders. There is a statutory process involved in making these orders and there is the possibility for objections to be made against them and made in respect of any failings in the required publicity/notice requirements. The report confirms at paragraph 19 that - "the TRO consultation process has been followed, a press notice was published, street notices were put up, and all statutory consultees informed".

Risk Management

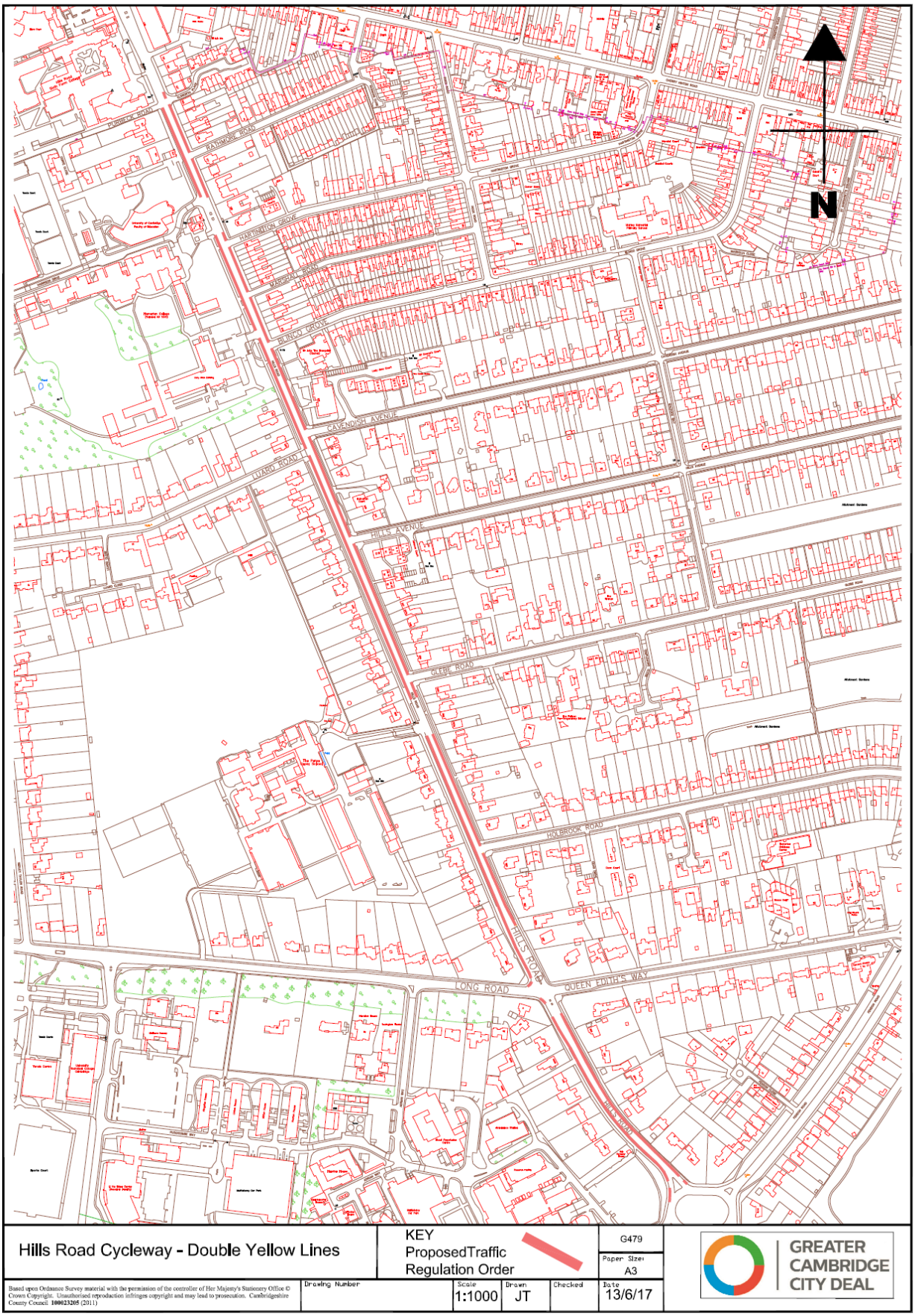
30. Alterations to, and subsequent re-advertising of Traffic Regulation Orders will result in a delay in completing some scheme elements.

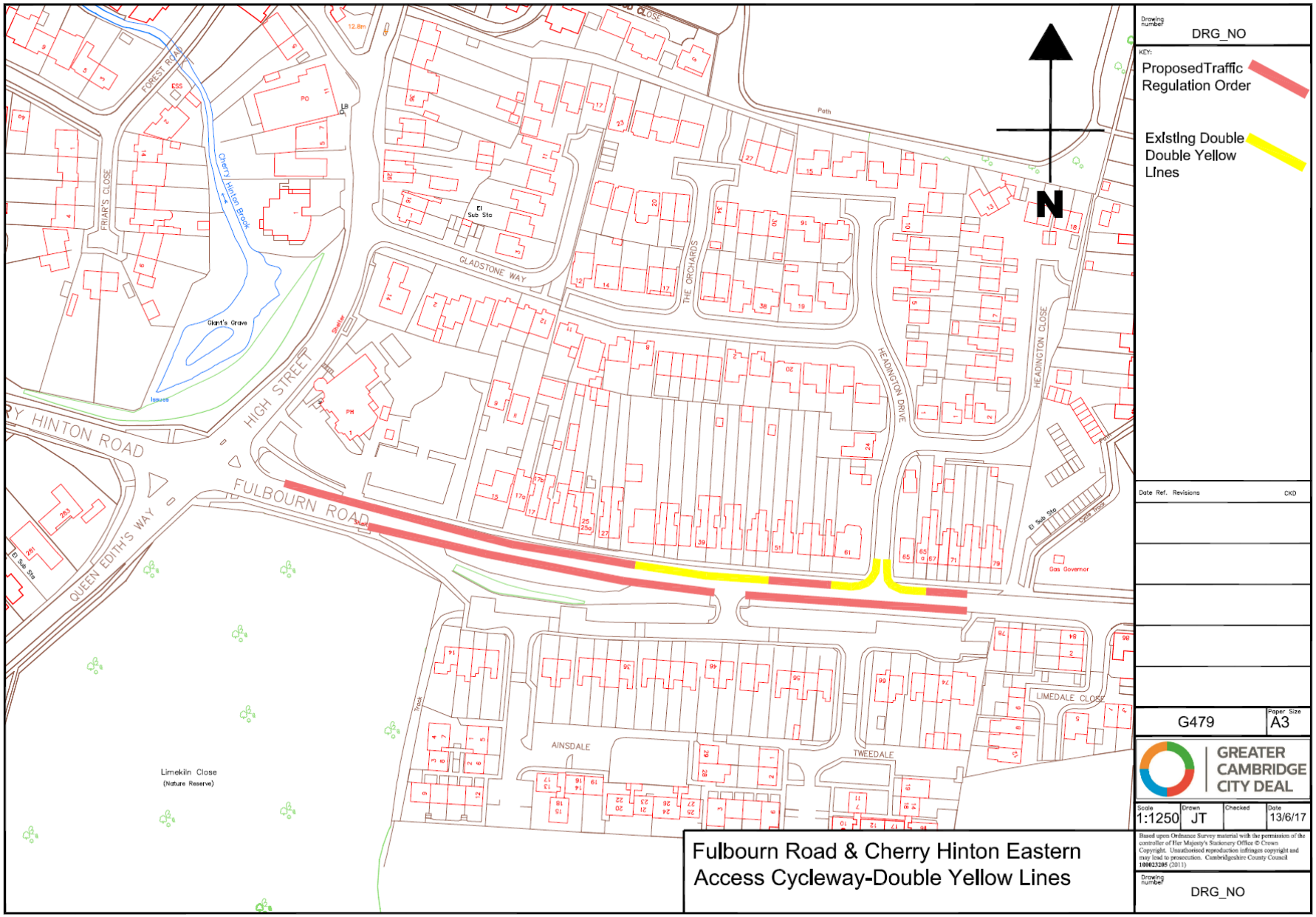
Consultation responses and Communication

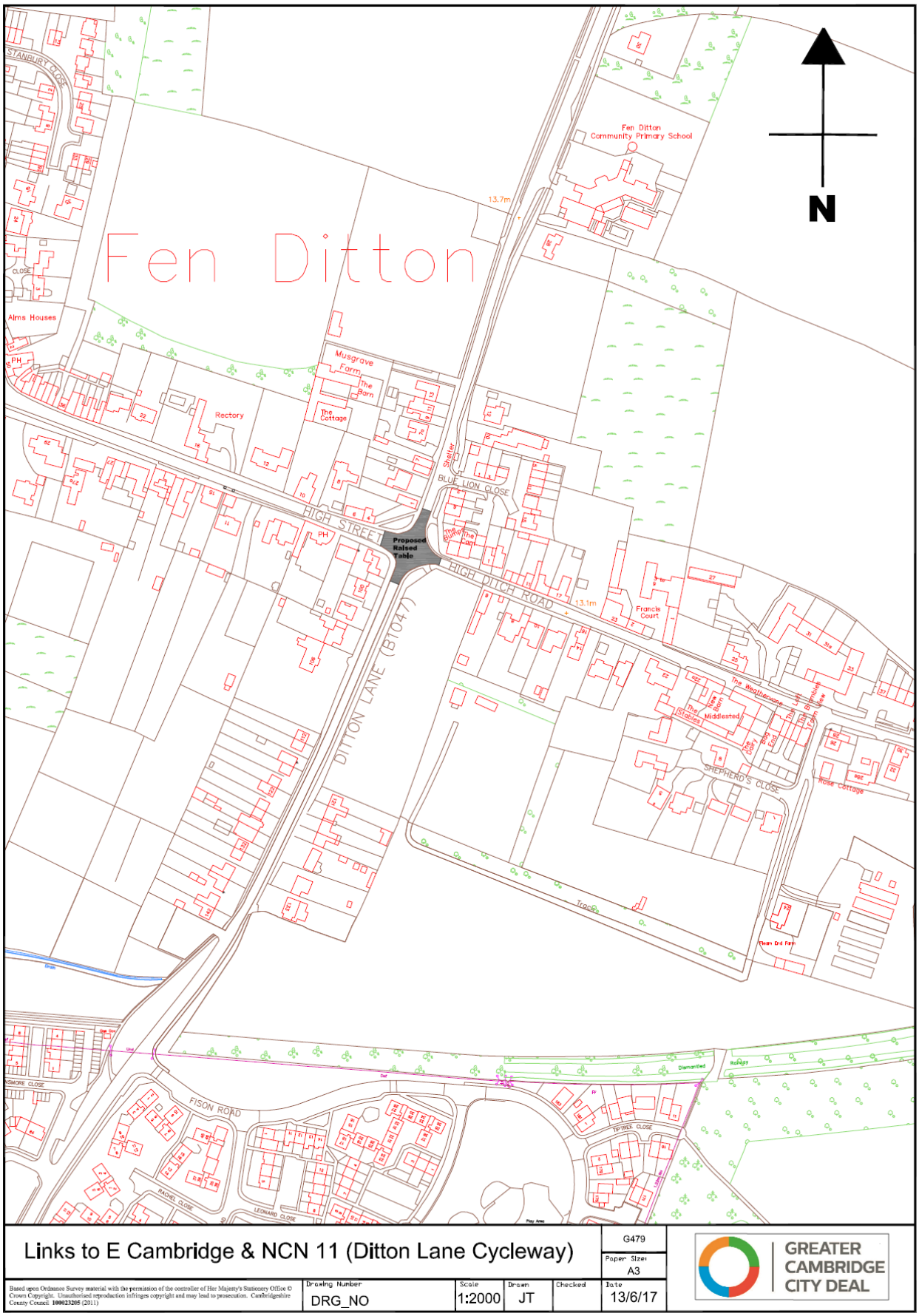
31. The consultation responses are shown in Appendices B and C.

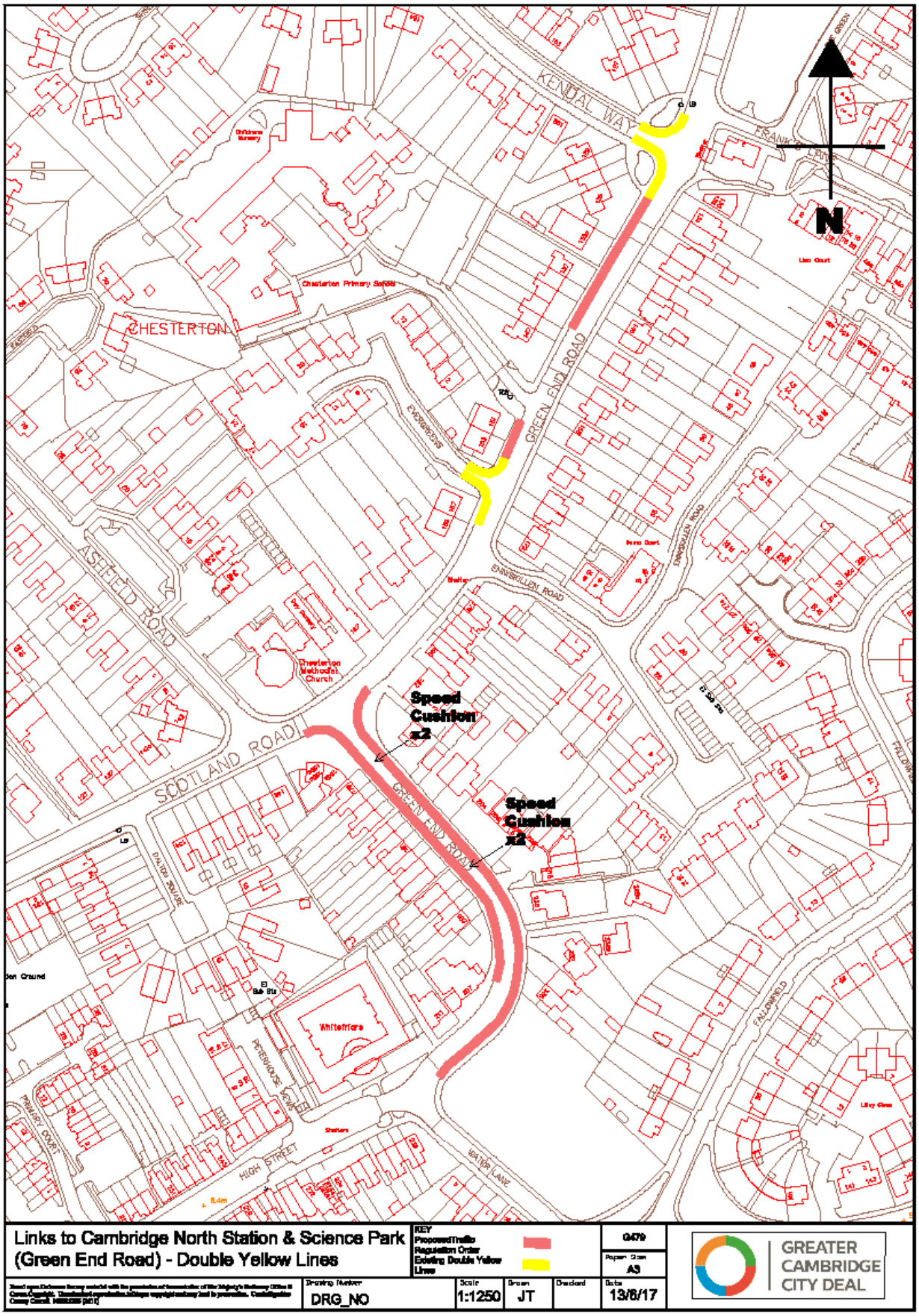
Report Author: Mike Davies – Cycling Projects Team Leader
mike.davies@cambridgeshire.gov.uk

APPENDIX A – TRAFFIC REGULATION ORDER PLANS




FRIAR'S CLOSE
FOREST ROAD
Cherry Hinton Brook
Giant's Grave
HIGH STREET
GLADSTONE WAY
THE ORCHARDS
HEADINGTON DRIVE
HEADINGTON CLOSE
FULBOURN ROAD
QUEEN EDITH'S WAY
LIMEDALE CLOSE
AINSDALE
TWEEDALE
Limekiln Close
(Nature Reserve)
Fulbourn Road & Cherry Hinton Eastern Access Cycleway-Double Yellow Lines
Drawing number
DRG_NO
KEY:
Proposed Traffic Regulation Order
Existing Double Double Yellow Lines
N
Date Ref. Revisions CKD
G479
Paper Size A3
GREATER CAMBRIDGE CITY DEAL
Scale 1:1250
Drawn JT
Checked
Date 13/6/17
Drawing number
DRG_NO




KENDAL WAY
GREEN END ROAD
CHESTERTON
ASHFIELD ROAD
SCOTLAND ROAD
ENNISKILLEN ROAD
HIGH STREET
WATER LANE
Speed Cushion x2
Speed Cushion x2
N
Links to Cambridge North Station & Science Park (Green End Road) - Double Yellow Lines
KEY
Proposed Traffic Regulation Order
Existing Double Yellow Lines
DRG_NO
1:1250
JT
13/6/17
GREATER CAMBRIDGE CITY DEAL

APPENDIX B - Objections and comments, Hills Road

	Objections	Officer's Response
1.	The TRO may just add to unenforced rules which make life difficult for everyone without really improving safety.	TROs are a valuable traffic management tool, without which the highway would become unregulated and more dangerous. It is difficult to enforce all TROs as they do require an element of human resource in which to enforce, however a lot of the time the presence for signs and lines indicating a TRO is sufficient to change motorist behaviour without the need for extensive enforcement.
	There are already double yellow lines which should be being enforced. The new regulations would presumably require more signposts giving restriction times, making the road even more ugly and commercial, but would there be extra enforcement?	County parking enforcement officers already carry out enforcement activities in line with service requirements. There will be signs installed as part of the proposed TRO for the purposes of enforcement and driver awareness.
	Removing the white posts would at least allow delivery vehicles to pull further off the cycle lanes instead of blocking them completely.	This could cause further damage to the planting and reduce impact on footway width.
	Requiring delivery companies to operate outside peak times will substantially affect their delivery routes and businesses.	This is something that those offering the service would need to consider, however delivery routing equipment (Software/SatNav/PDAs) are sophisticated enough to allow for this. They will still be permitted to park on side streets or on driveways.
	We are told that a similar scheme in Gilbert Road works "reasonably well", but Gilbert Road and Hills Road are very different and it is not clear how the Gilbert Road experience has informed this most recent proposal.	Gilbert Road has advisory cycle lanes and a peak time loading ban. It is residential in nature. The restriction has been in place since 2011. There are no ongoing issues around the implementation.
2.	I am a resident living in a house on Hills Road in the area to be affected. Why was there no consultation paperwork/letter delivered to my address?	The statutory consultation process was followed, a press notice was published and street notices were put up on site. Additional notices were put up several days after, and the deadline for the consultation was subsequently increased due to residents' requests.
	I have had to put up with two years of disruption (at some points not being able to access my driveway) whilst the new cycle lanes and	Whilst this is regrettable, there is always an element of disruption with construction projects on the highway.

	floating bus stops have been constructed. I am now having to bear more delays whilst the Hills Road/Long Road junction is being 'improved'. As far as I can see, the 'improved cycle way and floating bus stops' have increased congestion because the buses are forced to stop in the middle of the road thereby holding up all cars behind them until the last passenger has boarded the bus. Why should residents be subjected to restricted delivery times? I am unconvinced by the perceived safety benefit of asking delivery drivers to pull onto driveways where possible. Drivers cannot easily see pedestrians or cyclists when they are exiting the driveways (especially if they have to reverse). I would also like to point out that when you order a bulky item (eg. fridge-freezer/sofa) online you generally get a delivery slot between 7am-7pm for a particular day. The delivery company then sends a text the night before to give customers 2 hour delivery window. I do not believe that customers have much flexibility over that delivery slot once it has been assigned. I do not, however, think that residents on Hills Road should be penalised for a decision, made at a much higher level, to expand the CBC. I therefore object to your proposal to impose a TRO on Hills Road and I really hope that you will look into other ways to reduce the amount of vehicle traffic coming into Cambridge via the Hills Road area. This is far more of an issue than having deliveries during peak hours.	Whilst there may well be a small amount of congestion as and when buses pickup and drop off passengers there are wider benefits of creating better cycle lanes, for example safety for cyclists and motorists alike which could lead to the encouragement of cycling use and subsequently an overall reduction in congestion across the highway network. Residents along Hills Road will not be subjected to restricted delivery times. Deliveries can still occur, however, delivery drivers will have to take extra care to park in a more suitable location. As part of the TRO we will be able to install regulatory signs informing drivers of the loading/unloading ban at peak times giving the County Council greater powers of enforcement. Drivers should be trained to reverse into driveways as per the highway code. This is a service commitment that each delivery company needs to address. Drivers making deliveries of any description should be parking in areas that are safe, free from parking restrictions and ultimately suitable, customers' driveways would be a suitable option if wide enough.
3.	It is more dangerous for cyclists to have multiple vehicle movements turning across the cyclepath than it is to have vehicles pulled over to the side	If a cycle lane is blocked by a parked vehicle cyclists will have to either mount the pavement or proceed into the carriageway to pass, both of which presents risks.

	Data from the County Council suggests that nearly 5000 cyclists use the Hills Road cycleway every day. This TRO would force all deliveries during the hours of its operation to be made by vehicles pulling completely into residents' driveways (possibly having to reverse in if there is insufficient room to turn). Thus drivers would be moving/turning across the cycleways twice for each delivery. No evidence has been presented that is safer for cyclists than having vehicles pull to the side of the carriageway, where full visibility would be maintained for both parties at all times and it would be easier for vehicles to rejoin the traffic flow. While drivers *should of course* always be expected to pay due care and attention to other road users, there is copious real life evidence of the bad driving practices that can arise from the time pressures applied to delivery drivers: http://www.bbc.co.uk/news/uk-england-37912858 . This TRO will heighten the risk of frustrated drivers making bad decisions when pulling across cycle lanes to access/exit properties. It is excessively onerous on residents. The section of Hills Road affected by the proposed TRO comprises 131 properties. Several of these lack any off-street parking and so, under the proposed terms of operation, would be unable to receive deliveries for six hours a day. Officers have suggested that delivery drivers to these properties should park on a side street and walk to the house. However, it is well-known that the side streets closest to the houses without parking are already fully parked up with commuters, workers at Addenbrooke's, students at Hills Road Sixth Form College, etc. The real life outcome of the TRO will be that residents in those houses who are away from home during the working day will only be able to receive deliveries before 7am or after 7pm. There is also a particular concern around arrangements for coaches collecting/dropping off students at the EF Language School, as they will not be able to use the school's small car park. Again, I cannot see how it is safer for cyclists (or pedestrians or any other road users) to encourage delivery drivers to	The highway code already recommends motorists reverse into driveways and drive out, delivery companies should be instructing their drivers (if they do not already do so) to park and carry out their duties in a safe way, whilst observing local traffic law. The article you have highlighted is something that the each delivery company needs to address and not the County Council. It is unacceptable for anyone to break traffic law, delivery companies and drivers need to change their own working practices to factor in local issues such as this. The proposed TRO should not affect residents' abilities to receive deliveries. It will allow the County Council additional powers to carry out enforcement action of vehicles who are in contravention of a mandatory cycle lane especially at peak times. It is for delivery companies to agree services levels with customers. The County Council is not encouraging delivery drivers to carry out illegal manoeuvres such as parking on pavements. The TRO will provide additional powers of enforcement for the County Council and the associated signs will serve to inform drivers of the restrictions that they would be contravening. It is never good practice to carry out loading and unloading on a mandatory cycle lane in a high traffic flow arterial route.

	turn into narrow side roads and park on the pavement there than it is to pull to the side of a very wide straight road, maintaining visibility and access at all times. It has been foisted on residents at the last minute through a dubious process There has been continuous discussion and scrutiny of cycling arrangements on Hills Road since 2013, leading up to the Phase 1 and 2 schemes. At no point during this process has there been any mention of a TRO being part of the package of measures. Even at the two public meetings in January to publicise the Phase 2 works *when the application for the TRO had already been submitted by the Cycling Team*, there was no mention of the TRO. You will see from the attached letters how the Hills Road Residents Association and the Queen Edith's Community Forum have pressed officers and the relevant County Councillor for an explanation of this, and for an extension to the deadline such that we could try to raise local awareness of the proposal. Writing in a personal capacity, rather than on behalf of the QECF, I am still not satisfied by the answers we have received - there is every indication that officers and councillors tried to get this TRO adopted without the public being made aware that an application was even underway. What has happened calls into question the integrity and fitness for purpose of the entire process.	The TRO consultation process has been followed, a press notice was published, street notices were put up and all statutory consultees informed.
4.	The proposed ban on loading/unloading on Hills Rd between 07:00 - 10:00 and 16:00 to 19:00 Monday to Friday is dangerous, ill-considered and inadequately publicised. It is impossible to ban deliveries to properties on Hills Road between these times in the working day. Accordingly, any delivery or service vehicle will be forced to enter driveways of respective houses. Any large vehicle will need to reverse into the driveway to enter the property to avoid having to reverse out of the property when leaving to exit into Hills Road. Any large vehicle attempting such a manoeuvre will inevitably block	There remains no intention to ban deliveries to residents along Hills Road or anywhere else for that matter. The TRO consultation process has been followed, a press notice was published, street notices were put up and all statutory consultees informed. Delivery vehicles and service vehicles, should be using customers' driveways, where they are available and they should be seeking out safer places to park in order to carry out their duties, much like any

	traffic in both directions for a protracted period, assuming the vehicle has to reverse into a narrow driveway. Furthermore, reversing into the driveway and exiting potentially through a blind access across the pavement and one cycle path on the pavement and another cycle path on the roadway is fraught with danger to cyclists, pedestrians and vehicles. While it may be the Planners intention to bring all traffic in and out of the city via Hills Road to a stand-still and prevent access to Addenbrooke's Hospital and related departments, the proposed ban on loading and unloading will merely exacerbate an already ludicrous management of traffic flow along Hills Road. The lack of notice of this proposal, limited to a notice on a handful of lampposts on Hills Rd., timed to coincide with the school Easter break when many household are away on holiday, is shameful. Every household on Hills Rd will be affected by any such proposed change and it is the responsibility of the council to notify in writing every house and to provide sufficient time to canvas opinion and receive feedback.	other motorist should do. Many larger service vehicles such as bin lorries already manoeuvre in the way that you have described with little or no issue, it remains the driver's duty to actively signal to traffic his intended manoeuvre and for him to carry it out in a safe manner (bearing in mind most large vehicles have signal lights, klaxons etc.). Whilst this sort of manoeuvre may well be tricky for something as large as a removals truck, for the vast majority of vehicles similar in size to delivery vans this will not cause an issue. The statutory process regarding the proposal has been met, namely a press notice was published (giving 21 days in which to comment) and notices were placed on the street where restrictions are likely to take effect. There remains no statutory requirement to carry out a letter drop to premises.
5.	As someone who lives on Hills Road and works on the Biomedical Campus, I regularly cycle and walk along the proposed route of the ban and often in the proposed hours of its implementation. I must say that I am at a loss to understand how this ban could be beneficial in any way to residents or those travelling in this area. There is not a noticeable problem with vehicles unloading, and all it will do is create yet more restrictions on when residents can expect to receive deliveries or service vehicles (eg telephone, gas, electricity) where it is already very difficult to organise visits. It would be a much better use of everyone's time if the Council concentrated on the proposed Resident's parking scheme, which I support, and which would alleviate many of the vehicles and traffic in the surrounding streets.	Currently it is an offence for anyone to be parking their vehicle in the cycle lane. The only exceptions to this rule are statutory undertakers such as the Postal Service, or utility companies who need to use their vehicles in the area as part of a scheme of works. By installing 'no peak time un/loading' signs we are not only reinforcing highway law in the area, we are informing drivers who may be ignorant to their transgressions, and we are giving confidence to cyclists that their routes should remain unimpeded. This scheme is a result of complaints from cyclists, such as yourself, who find it a constant frustration when vehicles such as a delivery vans use the cycle lane to carry out a delivery thereby forcing legitimate users into the main carriageway or onto the footway. I assume this is even more frustrating to cyclists since most residences on Hills Road have driveways that are sufficiently large enough to provide sufficient

		access for vans.
6.	Surely you are aware that if you are having something delivered you have no say into when it can be done. You are offered delivery at any time during the day and at best an am or pm slot. Where do you expect vans to park? Especially once the resident only parking is implemented in surrounding area. Would delivery vans be allowed to pull onto path, being clear of the cycle lanes? (Where path is wide enough for them to do so and still leaving pedestrian access.) Also, now we have this ridiculously overpriced cycle way, is there a way to ensure that it is used. There are still cyclists frequently using the pedestrian path and weekly see cyclists going the wrong way on cycle paths! Am assuming that this isn't allowed but it happens so often, I'm not sure.	It is currently illegal for any vehicle to be parked in the cycle lane. Vehicles that are making deliveries should park in areas that are free from waiting restrictions, such as side streets, or residents' own driveways. It is illegal to park up on the footway unless there is a specific TRO allowing them to do so, which there is no in this case. Whilst it is illegal for cyclists to be on the footway unless it has been designated a dual use footway the County Council does encourage cyclists to use facilities which are already on offer such as the cycle lanes.
7.	I am writing to say that I am opposed to this proposition. It seems to me heavy handed, and over the top for the relatively few occasions this occurs. It will cause problems for residents receiving home deliveries. (Practicalities of having to in during limited daytime hours, or hoping companies will deliver outside 'normal hours').	It is currently illegal for vehicles to be parked in the mandatory cycle lane, the proposed TRO will give the County Council additional powers of enforcement and inform drivers of current restrictions. It will not affect residents' abilities to receive deliveries. Delivery drivers will have to park in areas that are safe, free from parking restrictions and take additional care when carrying out their duties as they should.
	Support	Officer comments
1.	I am emailing in support of this eminently sensible suggestion. It is utterly ludicrous to have the fine new cycle lanes we now have if someone can block them for even a couple of minutes. I've already had to have words with the language school regarding a coach loading students at around 8.40am, forcing the hordes of cyclists using the southbound lane at that time in the morning all to have to attempt (some with more success than others) to enter and use the car lane - which was then causing chaos as the successful cyclists were holding up the traffic so much. The shops under The Marque are also frequent offenders, despite there being a loading area at the rear of the building.	Noted. Noted.

	However, I would comment that it is pointless unless it is enforced somewhat better than the similar ban on the section of Hills Road from Lensfield Road to Station Road which I see frequently contravened, causing serious obstructions. And the taxi drivers of Cambridge need telling it applies to them too, as they often appear to think that the rules of the road do not apply to them.	County Civil Enforcement Officers already carry out patrols in the area. The County Council already has liaison meetings with the taxi trade and Officers will reiterate the need for taxis to comply as well, however ultimately this is down to individual behaviour.
2.	Again, thank you so much for Hills Road cycleway. It has meant a lot to our family in that our kids can now cycle alone from Long Road to the Leisure Centre whereas before we would take them by car or they would go on foot. It feels safer. That's why the proposed parking ban should go ahead. It will keep the children on the cycleway safe. Please extend such fabulous cycle facilities to the rest of the city. It has a huge impact on our daily life and I am sure it will convince more people to pedal because the overall deterrent is "lack of safety". Another thing that I have noticed is how suitable the cycleway is for cargobikes (Bakfiets), ideal for transporting entire families.	Noted.
3.	I want to express support for the proposed TRO for Hills Road.	Noted.
4.	As a cyclist who uses Hills Road a lot I think it's an excellent idea. I hope if it goes ahead it will be enforced.	Noted.
5.	I see there is a proposed peak time loading ban on Hills road. I am a local resident, who uses the Hills Road cycle lanes every day, and I strongly support this proposal. The safety advantage for cyclists will be great. Currently when a van is loading, cyclists have to merge with the car / bus traffic, sometimes at short notice. At peak times a high number of children use the cycle lanes, who are more vulnerable when mixing with traffic. The knock on effect for local residents can easily be worked around.	Noted.
6.	This is just a quick note to say that I am thoroughly in favour of the Loading Ban on Hills Rd. I see that the local community forum is trying	Noted.

	to drum up objections so I thought you might appreciate knowing that there is support too. I live in Queen Ediths, use Hills Rd regularly and would be very pleased to see a loading ban at busy times. Far too many deliverers use the (excellent) cycle lane as parking, sometimes at very busy times. Indeed I have remonstrated with such people in the past. Nearly every house has a driveway and there are plenty of side roads, so there is no excuse for parking in the cycleway, for deliveries or otherwise.	
7.	With regard to the traffic order to restrict vehicles parking on the Hills Road cycle path, I endorse this approach. If you could also include an order to stop cyclists using the footpath that would be excellent. Pedestrians are often overlooked and cyclist on the footpaths are a significant problem.	Noted. It is already an offence to cycle on the footway, something that the Police can carry enforcement action against.
8.	I am writing to support rather than oppose the proposed traffic order for Hills Road parking in peak times. I do so as both a cyclist & driver using the road quite regularly because I have had direct experience of the consequences of removal lorries forcing me, as a cyclist, off the new raised cycle-way and onto the now narrow traffic carriageway. I found myself having to drop off the cycle lane into faster moving traffic – not too difficult if you are confident – BUT I then found it was impossible to get back onto the cycleway safely. Whilst trying to do so – with a car perilously close to my rear wheel – I lost control of my bike completely as it hit the raised curb (I had tried to get an angle to reduce the impact but misjudged the difficulty of remounting). Fortunately the car braked and I just managed not to come off, but I was very badly shaken and it was a very near thing for me either to have crashed to the floor or worse been run over. This is now a very serious hazard for cyclists and I personally would ban – and police – ANY vehicles who park across the new cycle lane – it would be safer if they stopped in the carriageway because cars would not be faced by the problem of the hazardous raised curb.	Noted

	The alternative would be to remove the curb at intervals and have marked entry/exit points for cyclists to get back onto the cycleway. This would also help cyclists coming from Addenbrooke's and wanting to turn into streets in the Rock/Morley area where again they currently have a hazardous drop to manage before getting into the middle of the road to turn right.	
9.	(1) Emergency Vehicles (ambulances, fire engines, blood, police, frozen tissue, bomb clearance etc) driving down Hills Road need immediate wide clearance. It must be made completely clear to everyone that vehicles that pull over onto the cycle ways are not violating any TRO if they pull over to allow any emergency vehicle rapid passage. Unless a specific clause is enclosed into the TRO and publicised you will have confusion in the minds of drivers that will impede emergency vehicles and may even impede the saving of life. (2) Taxis having to *back into* a drive way to deposit or pick up a client are likely to take more time blocking the cycle way than just pulling off the road and depositing their fare. I would have had a two minute waiting waiver for the TRO. (3) Will the TRO apply to street cleaning vans? What features of the TRO will apply to disabled people with blue badges. They cannot be expected to walk from the side streets.	Emergency vehicles, utility companies and statutory undertakers are permitted to enter the mandatory cycle lane if they are carrying out their duties. Vehicles may enter the mandatory cycle lane in the event of an emergency or accident, or in this case allowing an emergency vehicle to pass unhindered. Any vehicle can pass into the cycle lane in order to access a property off street. A street cleaning van is a statutory undertaker and therefore exempt if carrying out its duties. No vehicles are permitted to park in the cycle lane, this include those who are disabled and have the blue badge. It is still permissible however for them to park in a side street, for a limited period of time on a restriction such a double yellow line or on a driveway.
10.	I am writing to wholeheartedly support the loading ban you are proposing in Hills Road. It is completely absurd that the new lanes, intended to separate cyclists from traffic, are being used to loading at any time of day. It makes a nonsense of the new cycle lanes, and leaves cyclists with their way completely blocked - at least previously it was possible to pass a parked vehicle. In any case, the houses almost	Noted.

	all have driveways, so there is no reason to block the cycleway at any time.	
11.	I am writing note to say that I support the Loading Ban on Hills Rd. I live in Arbury and work at Addenbrooke's. Having the cycle lane appear has made my journey so much more pleasant and safe. Having to move out into the main carriageway at busy times defeats the point of the cycle lanes and there are plenty of side roads and driveways where delivery drivers could park to drop a package off.	Noted.
12.	I understand consultation is underway on the proposed TRO to ensure safety of cycle lane users on Hills Rd (Ref PR0358). As a regular user of the cycleway I support the introduction of the TRO as I have had numerous near misses when pulling out into the main carriageway to go past vehicles parked in the cycle lane, so believe the TRO will enhance the safety of the route (on the assumption it is enforced). In addition, the displacement of these vehicles to driveways and regular side roads will support the free flow of traffic on the main carriageway. I believe that this viewpoint would be shared with the majority of the 5,000 or so daily cycle lane users of the route and a number of regular vehicle users of the route.	Noted.
13.	I've heard you're proposing a peak time loading ban on Hills Rd, to help prevent parking in the cycle lanes. As a former Hills Rd Sixth Form student, I used to have to cycle along Hills Rd twice a day, every (week) day. Not having to navigate around parked vehicles would have made a world of difference to me, and that was before the fantastic new cycle tracks were in place. I can only imagine, therefore, that these changes would have a massive positive impact on the safety of all students who are now attending the college, and who cycle every day - and for all those who go to schools	Noted.

	nearby, too. I therefore fully support a peak time loading ban.	
14.	I live in the new Great Kneighton development in Trumpington & use Hills Rd to commute to work, my accountancy college & rowing club. I would be very pleased to see a loading ban at busy times. Far too many deliverers use the (excellent) cycle lane as parking, sometimes at very busy times, blocking it entirely. Nearly every house has a driveway and there are plenty of side roads, so there is no excuse for parking in the cycleway or pavement, for deliveries or otherwise. I am a confident on road cyclist of 15+yrs (about to turn 30) so I don't mind being on the road, rather than a cycle lane. However I feel that this would be of most benefit to those slower/not so confident cyclists. It has been fantastic to see the increased amount of cyclists in & around Cambridge & with the Biomedical campus expansion & the University expansion I imagine cycling will need to be a more essential way to mitigate the rise in motorists.	Noted.
15.	I'm writing to let you know that I strongly support your proposal to make it illegal for vehicles to use the cycle lane or footway to load or unload in the morning and evening rush hours. I'm a frequent user of the cycle lane concerned (it's a very good facility when not obstructed) and I see lots of deliveries using the cycle lane as an unloading area and a general parking space, even at the very busy times when the loading ban is proposed, and this in spite of the fact that pretty-much every house has a driveway, and there being quite a few side-roads to park in. There's no excuse for parking in the cycleway or pavement, for deliveries or otherwise and I hope that, once in place, this TRO will be strongly enforced.	Noted.

APPENDIX C - Objections and comments, Green End Road

Objections and comments		Officer's Response
1.	At present, the cycle lane is being used as extra parking for residents and it is dangerous for cyclists to use the new lane provided for them. If no yellow lines are there, the whole exercise to construct cycle lanes will have failed.	Noted.
2.	Firstly, local residents need some on-road parking. For example my neighbours have two cars and only one off-road space. They both work out of town and public transport is not available for their journeys. Having bought houses in this area, with on road parking, is it fair to suddenly change the rules? Where will people park? Outside someone else's home? What happens when we have visitors? My daughter is expecting a baby, where will she and her partner park when they come to see me? Where will workmen park, when they are doing our repairs? Secondly, (and perhaps more important to you) is the question of safety. You claim to be 'creating a safe cycle route' to the new station. Wrong. This area is home to what I will call 'boy racers'. The sound of high revs and screeching brakes is not uncommon outside my house. A large 20 painted on the road is no deterrent to these people; in fact it is likely to represent a challenge. It has been recent national news that the police do not have the resources to deal with problems of this kind. As far as I know, there are no cameras either. What does slow the racers down is parked vehicles. Remove these and you create, not a safer road, but a mini race track, the exact opposite to what you intend. I am a frequent cyclist and would feel safer with things as they are. So I suggest you save yourselves some money and scrap this scheme. We with local knowledge know it won't work.	The majority of Green End Road have driveways or access to off-street parking. It is not a given right for any individual to park their vehicle, for any purpose, on the highway, neither is it the duty of the County Council to provide parking for residents. Anyone wishing to visit the area will have to park their vehicle in a place that is safe, in accordance with the Highway Code and any parking restrictions that may be present in the area. The scheme is designed to enhance safety of cyclists by keeping the current advisory cycle way clear of parked vehicles. Studies and best guidance from the Department for Transport and other bodies indicate that segregated cycle lanes offer some of the best safety benefits for cycling as it de-conflicts cyclists from other road users. As this scheme is for the The issue of 'racers' is really one of anti-social behaviour and one that is best addressed by the Police. The County Council is already planning to introduce speed cushions on sections of the road which will go a long way to improving speed limit compliance in the area.
3.	Double yellow lines, *if enforced*, will have a huge positive impact on my journey, both as a pedestrian and as a cyclist.	Noted.

	At the moment, cycling and walking along Green End Road is largely a case of playing dodgems with people parking their cars on the pavement / at random points along the road. If we can prevent people from doing this, my journey - and the journey of everyone who walks and cycles along Green End Road, will be made safer. This will be especially good for the school children who attend Chesterton and Shirley Primary Schools. Most importantly, it could lead to the road feeling much safer to travel down, which will encourage more people to cycle and walk. I have one objection: The proposed single yellow outside the take away and barbers. This will legalise parking in the cycle lane at that point. In other words, you have decided to prioritise ease of parking over the safety of those who cycle. And on a corner, too. There is parking available only a very short walk away on Chesterton High Street. Not only that, but there is lots of evidence to suggest that removing car parking not only doesn't negatively impact businesses, but actually has a positive effect on sales.	The proposal seeks to balance the needs for improved safety and the needs of businesses located on Green End Road. The proposed parking restrictions will allow for a turnover of parked vehicles which in turn will allow the businesses to operate with minimal disruption.
4.	Specifically I think it would be a dreadful mistake if there was any parking allowed in any part of the new cycle lanes at any time. I understand that there are existing businesses that will be negatively impacted (at least to some extent) by customers not being able to park their motor vehicles immediately outside their premises but that must be possible to resolve with short-term parking elsewhere and, besides, this is not as important as establishing separated cycleways as not being appropriate, or legal, for car users to use as a convenience to the disadvantage of cyclists.	The County Council must balance the needs for improved safety and those of others in this case businesses located on Green End Road. The proposed parking restrictions will allow for a turnover of parked vehicles which in turn will allow the businesses to operate with minimal disruption.

	A cycle route is only perceived to be as safe as its most dangerous point, and if that danger has been introduced as a result of a parked car simply blocking the lane then I despair at the money having been spent on the much improved road layout in that area which should, if properly enforced, encourage non-cyclists young and old to consider switching transport mode. As far as I know that ambition is a priority aim of the City's transport policy, and to compromise such a promising new development to accommodate privately-owned motor vehicles and local businesses, rather than trying to address those issues with more appropriate solutions, would be a major failing. There is a wider issue too that to allow this sort of compromise here will diminish the status of all dedicated cycle facilities around the city. There is plenty of evidence that a significant minority of vehicle owners consider it acceptable to treat cycleways and pavements as overflow parking when required. I think compromise solutions such as this will only help to encourage that view.	
5.	Objection criteria one: I think allowing parking in the cycle lane makes using the cycle lane dangerous and renders having the cycle lane in the first place pointless. I think allowing parking in the cycle lane will increase the risk of injury and death of cyclists. Drivers killing and injuring cyclists will face financial, criminal and mental consequences. Objection criteria two: The Greater Cambridge City Deal (or Cambridgeshire County Council - it's not clear to me which is running this process) has not in my view adequately publicised this consultation to users of the highway in this location; the decision to leaflet residents of immediately adjacent properties will not have alerted commuting cyclists, and others, who make use of the route to the consultation. I don't think "advertising" in the small print in the back of a newspaper can be considered to make a significant contribution towards adequate modern publicity for proposals such as these.	The County Council, in some cases, must balance the needs for improved safety and those of others in this case businesses located on Green End Road. The proposed parking restrictions will allow for a turnover of parked vehicles which in turn will allow the businesses to operate with minimal disruption. There was extensive informal consultation carried out prior to these proposals. Properties along Green End Road have been advised by letter and notices were put up on-street. In addition a notice was published in the press detailing the proposal, the County Council has met with all legal obligations as relates to the consultation process.

	Further comments: Pro-cycling policies have been adopted by local councils, public bodies and the Greater Cambridge city deal; allowing parking in cycle lanes is contrary to the approach being taken towards encouraging cycling, and making it safer, on grounds including health, reducing congestion, and making getting around the city a pleasurable experience. The takeaway may well be redeveloped (there is currently a planning application being considered). The takeaway is on a large site, some of which could be used for parking. There is also space within the highway (the pavement) which could be used for parking. There is the potential, and opportunity, with some will, imagination and leadership, to provide both a couple of short term parking spaces and safe cycle lanes, clear of parked cars, in this area. If the only tools considered to be available are paint, the traffic regulation order, and perhaps some dropped curbs, I'd suggest one, or two, parking spaces on what's currently pavement, restricted to 15 minutes waiting. I would like councillors to consider research showing businesses benefit from cycling customers, some of which has been collated at: https://bikeswelcome.wordpress.com/2016/08/01/businesses-benefit-from-cycling-customers/ I think it's important not to over-estimate the importance of car parking to the success of a business. If parking is to be permitted in the cycle lane I suggest not permitting parking in the morning peak commuter hours of 8-10am; the proposal in the draft order is for parking to be permitted, to an extent, at all hours. The introduction of double yellow lines outside the Whitefriars sheltered housing scheme needs to be considered carefully; this area needs redesigning; I don't know if driving across the concrete apparently intended as strengthened grass to park next to the building will still be	Noted. Schemes are assessed and designed in accordance with current best practice guidelines including that of the DfT. However, each scheme proposal is individual and may represent distinct challenges, in any event the County Council as the Highways Authority may seek to achieve a different balance to that being offered by current guidelines and has the right to do so. The TRO could then be changed as a result of any re-development that may occur. If this was to occur any on-street changes as a result would be paid for by the developer and not the taxpayer. Noted. Parking will be permitted outside local businesses between Mon-Fri 8am-6pm with a maximum waiting time of 2 hours. Currently people visiting Whitefriars appear to be crossing the verge to access off-street car parking that can already be accessed correctly using a driveway that is already in existence. It is likely that people park on the verge overnight or during peak visiting periods. This manoeuvre

	permitted or not as I don't know where the highway boundary is in the area; what's permitted and what's not needs to be made clear on the ground to those who have not read the traffic regulation order or purchased land ownership details from the land registry. The proposals don't include details of signage. I urge clear signage which doesn't obstruct the pavement, or obstruct any parking areas. I am writing this consultation response without having access to the statement of the Council's reasons for proposing to make the order nor the consultation leaflet, despite having asked for them / having noted their absence from the project webpage. The text of the proposed Traffic Regulation Order was only posted online by the Greater Cambridge City Deal on the 17th of May 2017 and the consultation deadline is the 19th of May 2017 I suggest consulting again on the plans as approved by the Greater Cambridge City Deal board in June 2016; or returning to the board looking more broadly at the options to design the road environment and parking in the area around the mini-roundabout, barbers and takeaway.	is technically unlawful. Double yellow lines here will prevent people parking on the verge and improve safety at the junction. Double yellow lines are not required to be signed. The proposed parking restriction outside the Green End Road shops will have at most two signs and associated posts on the edge of the kerb line, facing the carriageway. The reason for intending to make the above named Order is to facilitate the movement of traffic and to enhance safety for all road users Noted.
6.	As a daily cycle commuter through this area, I am writing to ask for a complete ban on parking in the new cycle lanes on Green End Road. The current situation is a joke, and is worse than what we had before which was terrible and dangerous. When I was watching the new cycle lanes being built, I was excited by the hope that this section of road would become safer and more cycle friendly. Imagine my dismay when every time I use the new road layout there are a series of cars parked in the new cycle lane and I am forced out into traffic to get around.	Noted.
7.	I support the introduction of Waiting Restrictions along Green End Road. Without these restrictions the recent addition of cycle lanes is worthless.	Noted.

	The restrictions will require good enforcement; a focus on the area soon after implementation would be a good idea. We are disappointed that the restrictions are not more extensive. In particular outside the businesses near the junction with Water Lane and High Street there should at the very least be no parking during peak commuting hours, rather than the two hours waiting that will be permitted. The lack of restrictions southbound between Frank's Lane and Scotland Road is very disappointing. Of particular concern is parking and waiting immediately after the bus-stop bypass, as there is no time to re-join the carriageway after using the bypass if there are cars here. However, we would rather see these incomplete restrictions introduced as soon as possible than face the delay of a further consultation.	The County Council, in some cases, must balance the needs for improved safety and those of others in this case businesses located on Green End Road. The proposed parking restrictions will allow for a turnover of parked vehicles which in turn will allow the businesses to operate with minimal disruption.
8.	1. Opposition to the raised cushions on Green End Road. Reason: These cushions will a detrimental effect on the amenity of road users travelling below the speed limit - effectively "punishing the innocent". There are a few bad drivers around this area, but I believe proper policing would be more suitable than more speed calming measures.	The speed cushion are designed to help reduce vehicular speeds in a highly urban environment. The concept is to make speed limits self-enforcing by introducing features like speed cushions that effectively reduce the reliance on the constabulary to carry out regular enforcement. It will be possible for most cars to straddle the cushions, therefore minimising discomfort; in any event a vehicle travelling at 20mph or below will experience very little discomfort.
9.	Our small section of road Green End Road between Scotland Road and the Water Lane mini roundabout has around 30 houses. There has never been any habit to park for extended periods as it is clear doing so would obstruct the residents who all have off road parking for one car. There has also been sufficient road width for all types of city traffic including bikes and the #2 buses to pass. The parked vehicles have also had better success in calming speeding than any number of expensive schemes. In practical terms a double yellow line on the west/even side would make little difference to the current usage habit, but if implemented on the east/odd side as well it would make a huge difference as residents both sides of the road need some parking for visitors.	Noted. The scheme is designed to improve cycle safety and encourage the use of bicycles in Cambridge City. To allow large scale parking in the advisory cycle lane would contradict the aims of this scheme. There is no right for parking on the highway. Visitors, tradesmen etc. will need to find alternative parking solutions nearby or to consider alternative arrangements.

	Yellow lines on both sides of our small residential road will make visiting our house nigh on impossible. We need legal parking sufficient for tradesmen to park to service our houses and gardens; we need health visitors, social support visitors, and the like, who do not get parking fines waived. The cycle lane roll-out is a great success where there is truly sufficient capacity of road and parking for it to work well without causing new problems. In tiny sections like ours it is solving no problems but is causing many new ones. Our road is too small, as evidenced by the fact there is no midline in one area for 2 lanes of traffic. Buses are now unable to negotiate the T-Junction when they meet, causing new traffic jams, and some cyclists now impatiently cross over the road onto footpaths to continue on the wrong side towards Nuffield Road. We've seen accidents now when there were none before. Another problem has emerged, with people parking cars on the footpaths instead of [advisory] cycle lanes, making it impossible for disabled people to use the footpath, especially on bin days, as the council insist bins are placed on the kerbsides. It's worth noting that in other pinched city streets with important links, like Tenison Road to the main station, parking has been left for residents. Last, not least, despite the scheme, cyclists are still using the pavement, and the speed of cycling has become very dangerous overall. I have been hit or shouted at by cyclists many times recently, a nasty side effect of a well meaning plan. Our suggestion is to leave things as they are now, and not add to the mounting problems in our tiny residential road with double yellow lines.	Noted. Most of Tenison Road is not wide enough to support a cycle lane and residential car parking at this time. The scheme will go a long way to encourage use of cycle lanes that are clearly demarcated and spate cyclists from pedestrians and other moving traffic. Noted.

	That being said, it would be useful to make our parking for residents and their visitors only, as the new train station may encourage commuters to park in the street all day long, in a street which, quite often, has low/no parking esp. during the daytime.	Whilst a residents' only parking scheme is possible in the future it does not address cycling issues which is what this proposal seeks to address.

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Agenda Item 13

GREATER CAMBRIDGE PARTNERSHIP

Growing and sharing prosperity

Delivering our City Deal

Report To:	Greater Cambridge Partnership Board	26 July 2017
Lead Officer:	Chris Tunstall Interim Transport Director	

City Access Strategy: Update and proposed next steps

Purpose

1. To report to the Board on progress (Appendix A) and direction of travel with the City Access Strategy which aims to reduce traffic flows through the City with provision of more sustainable alternatives, including:

   (a) A scaling up of the evidence base on which proposals can be made.

   (b) To provide details of a feasibility study carried out on the potential use of electric and hybrid buses.

   (c) To provide details of a feasibility study underway on the efficiency of the existing traffic signals on the network.

   (d) To provide details of the findings in respect of the on-street parking review.

   (e) The report also provides an update on the relocation of Papworth Hospital and proposed additional transport arrangements to the Cambridge Biomedical Campus (CBC) site.

Recommendations

2. It is recommended that the Board:

   1. Note the updates.
   2. Note the feasibility studies and receive further reports in September on the findings and recommendations in respect of:
      a. Use of Electric/ Hybrid buses
      b. A review of the Cambridge Traffic Signal network
   3. Agree to carry out further consultation and engagement with residents and the business community in both Cambridge and South Cambridgeshire on their transport needs and issues, as part of a wider 'Travel Diary' exercise, to help understand existing travel patterns, issues and incentives to change; including working with businesses to understand needs of employees from travel to work areas outside of the Greater Cambridge area; and
      a. To determine local transport priorities that could receive funding were a Workplace Parking Levy WPL to be introduced, building on employers' evidence of transport needs and in coordination with the Greater Cambridge Partnership.

b. To coordinate with and, if feasible, form part of the GCP and the Local Enterprise Partnership's broader engagement with the business community.

c. To develop and provide practical support for employers and schools looking to manage their parking demand and provision working closely with Travel for Cambridge.

To report back the findings to a future meeting of the Board.

4. Agree that the Director of Transport continues to negotiate a potential funding contribution for a Rural Hub Park and Ride service to be located at the soon-to-be-closed Papworth Hospital serving the Cambridge Biomedical Campus; and that a report be brought back to the next meeting

Reasons for Recommendations

3. To provide a progress report in respect of the work being undertaken and progress made to achieve the City Access Strategy.

4. To provide an understanding of the opportunities, benefits and risks of electric/ hybrid buses and their use within Cambridge.

5. To provide an understanding of the opportunities, benefits and risks that an update of the Traffic Signal network in Cambridge would bring.

6. To enable officers to engage with residents and businesses travel requirements, within both Cambridge and South Cambridgeshire, to further develop our evidence base particularly in respect of the diary travel exercise. As part of this we will also discuss the implications and the potential impact of a WPL, as required by legislation, to ascertain whether a viable scheme could be developed and brought back to the Executive Board for consideration and discussion. This would be alongside the identification of schemes and priorities that could realise benefits to local businesses, residents and the transport network by initially identify areas/improvements that could be funded using revenue raised through a possible WPL.

7. To enable officers to progress consideration and development of evidence based potential measures based on the findings of the ANPR survey and further outcomes based on the findings of the Travel Diary survey.

8. To enable officers to negotiate appropriate, viable and mutually satisfactory funding contributions for a Rural Hub Park and Ride arrangement at Papworth serving the Cambridge Biomedical Campus.

Background

9. The Greater Cambridge Partnership (GCP) vision is to make it easier to travel in, out and around Cambridge and South Cambridgeshire by public transport, cycle or on foot, and to reduce and maintain lower traffic levels in the city to ease congestion, through the creation of better, greener transport networks that connect people to homes, jobs, study and opportunity, and investment in Smart Technology.

10. The public and stakeholder consultation undertaken during July-October 2016 found there to be a range of views on the best options to reduce peak time congestion in the city, and specific views on what would and would not be acceptable. The January 2017 Executive Board' recognised:

(a) Doing nothing was not an acceptable option.

(b) The need to reduce traffic traveling through Cambridge by 10% -15%.

(c) The need to improve air quality.

(d) Buses need to be made more viable.

(e) A different approach towards Traffic (Demand) Management than the originally-proposed Peak-time Congestion Control Points must be investigated.

11. To achieve this the strategy for City Access is looking to reducing traffic flows within the City by between 10-15%. That this would be achieved by providing more sustainable and reliable alternative modes of travel such as bus, cycling and walking, accepting that ultimately some forms of demand management may be required but that such measure need to be clearly evidence-based and -led.

12. A joint Board and Assembly Task and Finish Group is currently reviewing the future Investment Strategy for Transport beyond 2020 which will assist with the further development of the City Access Strategy. The result of this should be available later this year.

Evidence Base

ANPR Camera Traffic Survey

13. The Automatic Number Plate Recognition (ANPR) survey that took place in Cambridge between 9th and 18th June 2017 is one of the largest ever undertaken. It will provide data primarily for Traffic Management and other City Access Projects, but can also be added to the Cambridge Sub-Regional Model2 (CRSM2) to provide increased accuracy of modelled data within the city centre area.

14. There is a requirement for buses to move more freely, more reliably and faster through the central area, in particular on north-south and east-west spine routes. This requires an understanding of which traffic is essential to the functioning of the central area and which traffic is using the central area routes to cross the city, the latter of which could be directed onto a more suitable route to free up space on the central network for the former.

15. ANPR camera surveys can discern individual vehicles within traffic, and because of this, a number of cameras used on a network enables vehicles' journey times and potential route options/preferences to be understood and analysed.

16. The data captured will provide valuable insight into traffic movements into, out of, and through the City central core area. From the data gathered, we expect to be able to understand journey times and trip chains (therefore delays, congestion and journey time reliability), fleet make-up (diesel/petrol/hybrid/electric) and therefore impacts on air quality.

17. The data is currently being collated and 'cleaned'. Associated data that the survey company will source from the DVLA includes vehicle types, vehicle emission standards, vehicle weights (for HGVs) and number of seats (for buses); the survey company does not source vehicle owners'/keepers' address details.

18. The finalised dataset is expected to be available mid-summer, at which point it will be interrogated. The information will be very useful and can be used to inform our upcoming engagement with residents and businesses in both Cambridge and South Cambridgeshire and each of the elements of the City Access Strategy, including the City Council's air quality work (which may include electric vehicle and charging aspects), looking at access to the rail stations, Park & Ride P&R aspects, and potentially also travel planning work for key employment areas. This data will also support other developments not associated with the GCP.

Engagement and Travel Diary

19. Plans are currently being developed for a 'conversation' in the autumn, together with a Travel Diary Questionnaire with all Greater Cambridge residents, in relation to their

future plans for travelling and what they feel that they need to have in place to enable them to make changes to their travel methods.

20. In addition it is intended to enter into dialogue with local businesses in respect of their requirements and of their employees, particularly those who live outside of the Greater Cambridgeshire area.

Updates

Demand Management

21. A component of the City Access programme is the need to consider demand management. However, this work needs to be clearly evidence-led and –based, and as such, has been paused pending the results and findings of the ANPR survey and the emerging findings from the Task and Finish Transport Group (TFTG), which is one of a number of joint GCP Board and Assembly Groups set up to consider and recommend future direction in respect of on-going Transport investment.

Workplace Parking Levy WPL

22. Access to workplace parking in the urban environment significantly contributes to congestion and emissions. A WPL does not directly create changes to traffic in the same way as Traffic Management measures might; instead it is identified as being a process through which revenue can be raised, the monies from which can be used to invest in the provision of alternative transport and the transport network. This can enable growth in housing and employment to take place, by increasing sustainable transport use and, therefore, increasing the capacity of the transport network.

23. The majority of the revenue received from the Nottingham WPL is provided by medium to large business; these are likely to have a significant presence on the transport network and a greater impact on congestion, particularly in peak periods. They are, however, often better placed to support change in travel habits by working with their staff to enable flexibility and ease a transition to increased use of sustainable transport. In Cambridge this is already taking place, with some of the larger businesses on the Cambridge Science Park trialling electrically assisted bikes for local business transport.

24. With the addition of Controlled Parking Schemes to restrict the ability of any displaced vehicles from using on-street parking, WPL can have an impact on congestion and encourage modal shift to more sustainable transport modes.

25. Evidence from Nottingham suggests that a WPL does not provide an immediate reduction in congestion, but one that it is likely to happen over time. To support this, it will be important to ensure that other modes of travel are improved. A bus network that is efficient is more likely to encourage modal shift than one that is regularly stuck in congestion alongside the rest of the traffic. Streets that have less traffic become more attractive areas for people to cycle and walk.

26. A WPL would require Secretary of State Approval for implementation to take place. To achieve this we would need to demonstrate that we have consulted widely with the Business community and largely addressed their concerns. We would also need to demonstrate that transport measures we are providing support WPL; this would include improvements to public transport and cycling infrastructure in the areas affected by the levy.

27. Discussions with Nottingham have made it clear that engagement needs to be early and extensive. Their success in delivering a WPL was linked directly to the engagement they had carried out with the business community.

28. As part of the wider engagement ‘conversation’ with the business community in respect of their and their employees’ travel requirements, it is recommended that

early engagement with the business community as part of the travel diary process should start in the autumn.

Better Bus Services and Air Quality

Electric / Hybrid Buses Feasibility Study

29. Air quality in large areas of Central Cambridge and along key corridors is poor. Diesel vehicles have been identified as key emitters of pollution, especially those with larger engines, including buses, HGV's and LGV's, and taxis.

30. The Executive Board provided funding on 8th March 2017 for co-investment in electric vehicle charging points. This funding is currently assisting in the provision of electric charging points for taxis.

31. In respect of buses**,** a feasibility study has been commissioned into the possible provision of electric / hybrid public transport options.

32. The feasibility work evaluates a number of elements, including:

    (a) Cities currently using electric buses, including York, Nottingham and London.

    (b) Benefits and disadvantages of electric buses.

    (c) Factors for success, such as:

        1. Infrastructure – charging facilities and locations, priority, depot
        2. Routes – length and complexity
        3. Operations – quality standards, driver training, interchange with other services
        4. Vehicles – costs, reliability, repairs and maintenance, batteries
        5. Commissioning – tenders, buying outright, partnership, Authority leasing
        6. Marketing, ticketing, information etc.

    (d) Impacts on, and implications for, power distribution networks.

    (e) Technology, including hybrid and full electric.

    (f) Options for Cambridge:

        1. Park and Ride only
        2. Incrementally moving towards full city provision

    (g) Options for Cambridge:

        1. Park and Ride only
        2. Incrementally moving towards full city provision
        3. An inner city shuttle (smaller buses)

33. The results of the initial study and recommendations for electric / hybrid bus opportunities for Cambridge can be found at Appendix B. A further Report in respect of the recommendations will be brought back in due course

On Street Parking Controls

Parking Review

34. Steer Davies Gleave were commissioned by to produce a report that provides an understanding of the impact of the proposed Resident Parking Schemes in Cambridge. The report, at Appendix C provides a displaced parking overview and builds on previously undertaken survey work into levels of on-street parking in areas

of Cambridge, to provide an understanding of impacts if resident parking schemes are introduced.

35. The Mott Macdonald 2016 on-street survey results were reviewed and further analysis was undertaken to categorise vehicles parked on-street into resident, commuter and non-resident, non-commuter vehicles. This work provides an updated figure of the commuter displacement that parking restrictions would create and explores public transport considerations, including Park and Ride options and other alternatives for commuters currently parking on-street.

Smart Technology

Traffic Signals Review/Study

36. Traffic signals are used to improve safety, such as helping people cross the road, or to better manage the flow of traffic or congestion at junctions in the network and also assist with the smoother flow of traffic helping with air quality. Within Cambridge there are currently 184 individual sets of traffic signals, around half of the total within Cambridgeshire. Of the signals within Cambridge 102 are pedestrian crossings and 82 are at junctions. 52 of the 82 junctions in the city have been installed in their current format for over 10 years.

37. Around 40 of the sites in Cambridge on key routes have their signal timings calculated automatically using a SCOOT UTC system. This system uses additional vehicle detectors buried in the road to monitor and then better manage congestion and flow at a strategic level. An additional 20 junctions have a MOVA facility; this works in a similar manner to SCOOT but is used at isolated sites. All signals in the city have a general system to detect vehicles and cycles, changing the signals and green times as required.

38. To ensure the traffic signal network within Cambridge is operating as efficiently as possible a full review of the network is to be undertaken. The review would determine the necessary upgrading needed to make operation of the network as efficient as possible.

39. A full review of all 184 installations in the city will identify where existing sites running under SCOOT need refining, or if the number of sites needs expanding. The same review would audit the SCOOT control system and how it works at a strategic level. Of the remaining sites, the project would identify where junctions are not working as efficiently as possible.

40. The cost of the study will be met by already approved 2017/18 funding from the GCP.

41. The outcome of the work would be a comprehensive report proposing where additional resources should be targeted to improve the general efficiency of the traffic signals asset in Cambridge, and suggest if alternative control strategies would be beneficial. This will be the subject of a further Report.

Air Quality

42. Air Quality is a key issue for Cambridge, and the City Council has been working closely with the City Access team and other colleagues through the Working Group and Project Boards. The City strongly supports work to improve the evidence base, including the ANPR surveys, as this will provide up-to-date information on transport-

related sources of emissions, which can inform the consideration of a potential Clean Air Zone (CAZ). Work on electric vehicle charging infrastructure, which would support and enable such a CAZ, is also underway, together with the recruitment of a fixed term post to work within the City Council, providing additional capacity to assist with the work currently taking place on Air Quality.

43. Additionally, the City Council have coordinated a response to Defra's recent 'draft UK Air Quality Plan for tackling Nitrogen Dioxide' consultation. The overall feeling was that the draft Plan needed a more robust approach and further information on many elements if it was to be useful and effective, so it is hoped updates to the Plan will remove these concerns. The updated Plan from Defra is due at the end of July.

Papworth Hospital / Cambridge Biomedical Campus relocation update

44. The forthcoming closure of Papworth Hospital and relocation to the CBC site will lead to a marked change in travel patterns of staff and visitors, and will increase travel demand to the already-busy CBC site. Around 1800 staff will transfer from Papworth to the CBC site in early 2018.

45. The University of Cambridge and the CBC have commissioned a West of Cambridge to CBC Bus Service Feasibility Study. The results of which are provided in Appendix D.

46. The study identifies that significant developments are planned at the CBC, including:

(a) Expansion of the Cambridge Biomedical Campus (CBC)
(b) The new headquarters for Astra Zeneca
(c) Abcam
(d) Addenbrooke's Seminar / Conference Centre, Learning and Development Centres and hotel (referred to as The Forum)

In addition:
(e) Countryside Properties will develop Clay Farm (2300 dwellings) and ultimately Glebe Farm (320 dwellings with community facilities)

This level of development will put a notable strain on an already congested area, and it is likely that improvements to existing sustainable travel options such as Trumpington and Babraham Park and Rides will be required to mitigate likely impacts. This will be the subject of a future Report.

47. Consideration of a new bus service, which would be a service bus for all to use, is a planning requirement based on the Travel Plan submitted at the time of the Outline planning application for the CBC site. This sets ambitious targets for mode share by public transport that are far higher than the current Travel to Work mode share by bus in the general Cambridge area, which in the 2011 census was 3.99%.

48. The GCP has already promoted and provided funding for a major transport investment on the A1303 corridor to the west of Cambridge. Cambourne to Cambridge is a bus priority scheme as the A428 and A1303 are key routes into the city from the west. This is often congested between Papworth Everard, Cambourne and Cambridge. The GCP partners are seeking to allow better bus journeys by improving the existing, or creating new, bus infrastructure, and where possible, cycling links too.

49. Investigations are currently ongoing as to whether 200 car parking spaces could be retained at the Papworth site for the immediate and near-future, which would operate as a Rural Hub Park and Ride site that could be serviced by a timetabled shuttle bus running to and from the CBC site.

50. Operational hours of a potential public shuttle bus are currently being considered, with initial thoughts being that the most viable option would be peak-time only operation rather than throughout the working day.

51. The provision of such a facility would operate along the same principles as a Rural Hub Park and Ride, which would reduce demand for travel by (often single-occupancy) private vehicle to the CBC site, which in turn would reduce overall congestion, reduce emissions, and reduce demand for the limited car parking facilities at the CBC site, as well as reduce demand for the limited road network space in the local area and on the nearby Strategic Network (i.e. the M11).

52. Such a facility would also contribute towards a reduction in need to construct an additional 1200-space parking facilities that already has outline planning permission on the CBC site. This would help in ensuring the existing traffic issues at the CBC site are not exacerbated.

53. The operation of a Rural Hub 'Park and Ride' from the Papworth Hospital site would require revenue support to enable a shuttle bus to operate. Initial estimates are that such a service would require revenue support in the region of £100k per annum over a 3 year period.

54. The Board are asked to note the discussions to date and agree that further negotiations take place regarding possible funding as part of GCP Rural Travel Hub initiative.

Other City Access Updates

55. In addition to the above a number of other initiatives are also being developed or considered; these include:

<u>Rural Travel Hubs</u>,

(a) A feasibility study has been commissioned to evaluate the opportunities that rural travel hubs might offer. The project is a GCP initiative that is being jointly delivered with South Cambridgeshire Council .

(b) The outcome of the initiative is to offer villages in South Cambridgeshire better opportunities for travel by public transport, cycling and walking.

(c) The report is expected in Mid-November and will be brought to the Executive Board with recommendations for two trial hubs to be provided and evaluated

<u>Nine Wells Cycle Path</u>

(d) City Access are currently looking at opportunities to accelerate the delivery of the Bell School development cycle path, known as the Nine Wells cycle path, that will be provided through S106 developer contributions. Currently we are looking into the legal framework that could support early delivery.

Resources

(e) A number of jobs have been advertised, to support scheme development and delivery across the City Access workstreams.

Implications

Financial Implications

56. Additional financial resources will not be required, as the work proposed is within the budgets provided for City Access in March 2017.

Legal

There are no legal implications arising from this Report

Risk Management

City Access and each of the individual Workstreams have Risk Registers which are reviewed on a regular basis. There are no heightened Risks as a result of this Report.

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Appendix A – Worksteam Updates

Workstream	Summary of progress	Key dates
Engagement	The engagement - Cambridge and South Cambridgeshire (links with ANPR/ Travel Diary work)(subject to decision to proceed)	Autumn 2017
Workplace Parking Levy	Liaison with Nottingham. Consultant procured. Engagement with Business re: requirements.(subject to decision to proceed)	March 2017 March 2017 Autumn 2017
Traffic Management	ANPR Survey complete. ANPR data collation / analysis Future Traffic Management proposals. Linkages to Air Quality work and CSRM2 traffic model. Travel Diary 'Hubl' urban consolidation centre and 'click and collect' at Trumpington P&R	9th - 18th June 2017 July – Sept 2017 Winter 2017 Ongoing Autumn 2017 June 2017 onwards
Parking Management	Recruitment of additional required project staff. Priority Residents' Parking Schemes workshops. Priority Residents' Parking Schemes consultation. Displaced Parking / P&R capacity report. Papworth Hospital closure / relocation / P&R consideration.	July – Sept 2017 July – August 2017 October 2017 July 2017 July 2017 – ongoing
Better Bus Services	Recruitment of additional required project staff. Discussions with CBC re: mitigating their growth. Rural Transport Hubs study with SCambs. Electric/Hybrid Buses feasibility Study.	July – Sept 2017 Ongoing July – Dec 2017 July 2017
Cycling Provision	Recruitment of additional required project staff. City Council leading on potential 'Spring Clean'. Ofo bike-sharing scheme roll out and expansion.	July – Sept 2017 Ongoing May 2017 – ongoing
Public Spaces	City Council developing Places & Movement SPD. Coordination / liaison re: public realm improvements guidelines.	Ongoing Ongoing
Air Quality / Clean Air Zones	Recruitment of additional required project staff. City Council coordinated response to Defra re: draft UK Air Quality Plan to tackle Nitrogen Dioxide. Investment in Electric Vehicle charging infrastructure. Electric/Hybrid Buses feasibility Study.	July-Sept 2017 June 2017 March 2017 – ongoing July 2017
Travel Planning	Recruitment of additional required project staff. Greater Cambridge resident Travel Survey development.	July-Sept 2017 July 2017 – ongoing
Smart Technology	Review of traffic signals / consideration of upgrades. Digital Wayfinding at Cambridge Stations.	July 2017 onwards Ongoing

Appendix B – Electric Hybrid Bus Feasibility Study

DRAFT June 2017
Electric buses in Cambridge – assessment and initial feasibility study

1. Introduction

1.1 Cambridge proposal

Cambridge is an attractive growing city with a thriving economy fuelled by the presence of excellent universities and high tech industries. Significant housing and employment growth is planned. However, the city also suffers from the problems associated with this success – particularly traffic congestion, which increases business costs, affects the health of citizens and inhibits the development of alternative forms of transport which might relieve congestion but which also get caught up in it.

The Greater Cambridge Partnership Transport Strategy is attempting to break this vicious cycle by providing better bus services as well as better organising the limited roadspace in the city, by giving preference to necessary car trips over those that can be substituted by other modes of transport. One aspect of encouraging this substitution is to provide attractive, green and reliable alternatives, for example electric buses, on part or all of the city's bus network.

This is made all the more urgent because of concerns about air quality in the city centre and other areas, and the possibility that quite severe measures might be imposed by the government to ameliorate the problems. Electric buses can be a major contributor to clean air.

1.2 Why electric buses?

Alternatively fuelled buses are now in operation in various countries, due mostly to concerns about reducing carbon emissions that contribute to climate change and more recently about air pollution in cities and in particular about diesel fuels, although it is fair to say that pure electric buses are sometimes still at the testing stage. Take up has been relatively slow due to high purchase costs and until very recently, like electric cars, worries about range, limited styles and sizes and also from lack of government support in providing supporting infrastructure like charging stations. However it is worth remembering that bus operating companies generally work on a 10-13 year buying cycle, and it is safe to assume that electric buses will become much more common in the next decade.

Concerns about high costs, range and charging facilities have been overcome, for example in London, by extensive use of non plug-in hybrid vehicles, now alongside 121 pure electric buses. TfL has now committed to a full fleet of electric vehicles by 2030. Certain other cities, notably Nottingham in the UK, have already managed to bring a network of true electric vehicles into operation, and there are undoubtedly lessons to learn from that experience. York have recently worked in partnership with First York to bring 12 electric buses into operation on Park and Ride services, and have plans for more.

The measurable benefits of pure electric buses are low running costs and a significant contribution to decarbonisation and air quality. However, there are intangible benefits which may even outweigh these, for example their popularity with the general public and their role in contributing to an image of the city as green and progressive in its management of growth.

1.3. Examples of alternatively fuelled buses

Definitions

A **pure electric** bus carries one or more storage batteries which are charged by means of special chargers, either slow charging overnight while the bus is not in operation, and/or rapid chargers which are often used to top up during the day, while the bus is still in operation.

An **electric hybrid** bus works by having both an electric propulsion system and a normal diesel engine on board. Usually the internal combustion engine is used to charge the electric motor or when the electric motor is idle. Times when the electric motor is used can vary for example switching on for maximum efficiency or only in certain locations.

A **gas** bus replaces diesel with gas, usually Compressed Natural Gas (CNG), often from the national grid but replaced with equivalent biogas, usually methane, returned to the grid from a plant elsewhere.

A **hydrogen** bus uses a hydrogen fuel cell to power the bus, sometimes also including batteries for storage. TfL is experimenting with one hydrogen bus, but the technology is considered too risky for serious consideration in this report.

Induction charging is charging at bus stops or other road sites via a plate in the road surface. The bus needs to stop for 10 minutes minimum. London and Milton Keynes are testing the technology, more information at http://www.cbi.org.uk/insight-and-analysis/milton-keynes-wirelessly-charged-electric-buses/

Zeeus Project

The Zeeus project http://zeeus.eu/news/zeeus-ebus-report-is-out lists electric bus projects in Europe, including hybrids. It also usefully lists manufacturers worldwide and their current offers in 2016. Interest in electric buses is widespread in Europe, and the manufacturers are responding with an increased variety of bus types. Most European electric bus services rely on overnight slow charging at depots, and sometimes also at terminals. However, cities are trying a variety of additional opportunity charging methods, including induction at bus stops (Germany); pantographs (Germany and Sweden); and overhead/articulated arms.

Most services are operating on flat, short, city routes. London stands out because of the variety of different buses and types of charging being tested (and since the report has developed a substantial electric bus network), and Nottingham stands out as the only city at the time of the report with a network of 45 (now 58) electric buses.

According to the Zeeus report, in 2016 there were 27 suppliers of electric buses. This includes Optare and Alexander Dennis in the UK. So far Optare have provided most of Nottingham's fleet, all in Manchester, York and Inverness, as well as some of the London buses. Their most significant competitor so far in the UK is the Chinese company BYD, now working with Alexander Dennis, and the only company to be offering a double decker electric bus. Whilst there now appears to be a good range of single decker sizes, charging options and styles, electric double deckers have proved more of a problem and their development has been driven entirely by demand from London, who now have 121 electric double decker's in operation and are planning more (see https://tfl.gov.uk/info-for/media/press-releases/2017/february/gla---mayor-announces-two-new-electric-only-bus-routes). A summary of London bus characteristics and demonstration projects can be found at https://tfl.gov.uk/modes/buses/improving-buses

2. Case Studies

2.1 Nottingham electric bus network

The Nottingham example is worth further consideration, as it includes a variety of different services, including Park and Ride, and is operating successfully, some services for three or

four years. Figure 1 below lists buses bought, funding (all include Workplace Parking Levy contribution), and the services they are used for.

Figure 1: Electric buses in Nottingham

Funding	Year	No. Buses	Type	Service
GBF1	2012	4	Optare EV Solos	Centrelink
GBF2	2013	4	Optare EV Solos	Locallink
GBF3	2014	20	Optare EV Solos & Versas	Medilink P&R and Locallinks
GBF4	2015	17	Optare EV Solos	Locallinks/Worklinks
GBF4b	2015	13	BYD saloon	City P&R
OLEV	2016	0	Charging infrastructure	All services
Total		**58**		

Virtually all the city's non-commercial network now runs with electric buses, with 6 million trips pa. The 45 Optare buses have a range of 60-70 miles, are trickle charged overnight at the depot and many are topped up during the day at one of eight locations with rapid chargers. The 13 BYD buses only need 5 hours overnight charging, despite operating for long hours and over 180 miles per day. The whole project has cost at least £15m, funded by the various grants enabled by match funding from the City's Workplace Parking Levy. The buses are owned by Nottingham City Council and their operation is tendered to Nottingham Community Transport (NCoT). According to Nottingham City Council, savings of £300,000 pa and at least 1050 tonnes reduction in carbon emissions have been achieved.

Lessons learnt:

- Although popular, electric buses are not major contributors to congestion relief in themselves. This will only happen if the electric buses are operating with other tried and tested means of encouraging modal shift (including integrated ticketing, bus priority, good information and passenger comfort levels, and most importantly attractive fares).
- Electric buses are however major contributors to the city's climate change and air quality strategies, as well as saving revenue
- In Nottingham an incremental and opportunistic approach, following a set of known desired outcomes (emissions, costs, full provision on subsidised network), has worked. However matching sums from the Workplace Parking Levy has been key.
- The vital need for expertise throughout the project, including the Council officers commissioning the buses and specifying the tenders, through to having trained drivers and skilled mechanics. NCoT found that there were a lot of small logistical, operational and maintenance issues that had to be 'ironed out' – but once resolved, operation has been smooth, with significantly reduced costs. Driver training is vitally important in order to manage the range limitations. Drivers have to get the best out of the system, for example by using the regenerative braking systems properly. NCoT has purchased a bus tracking system that also provides battery information, so there is always central information on battery status, finding for example that 36% of power comes from regenerative braking.
- Passengers are generally happy (or at least content) with the electric buses, as long as they continue to have the same or better benefits as traditionally-fuelled buses. Feedback was positive at the start, but comments have now levelled off as passengers get used to them.
- Park and Ride sites are relied upon for the majority of the charging infrastructure, and provide other support functions in an area managed by the City Council.
- NCoT has also found that because of the operational issues, more electric buses are required than diesel ones. This is partly because Nottingham is in the vanguard of electric bus provision and has had to resolve each operational or maintenance issue as it comes up, which will diminish as more buses come into operation. But it would be

prudent to plan for more vehicles than would normally be the case. NCoT have good relationships with both suppliers, finding Optare have the edge in better vehicles and ride quality, but BYD have the longer range. NCoT has developed considerable expertise in electric bus operations over the last few years and would be willing to discuss these matters with City Access Team or operators if required.

- Getting the right power supply requires good working relationships with the electricity companies. The BYD buses in particular need enormous amounts of electricity, which was provided via additional sub-stations at the eco energy centre at a total capital cost of £200k.
- Initial concerns about battery reliability have not been realised. Both Optare and BYD buses are performing better than predicted, with no apparent degradation of battery capacity. Earlier ideas about moving to using induction charging have been put on hold as the supplied batteries are proving so reliable.
- The main concern about electric buses is now more related to the longevity of the batteries, coupled with the speed of battery degradation and costs of maintaining the drive train. There is now evidence that these risks are lower than thought – with suppliers providing attractive 8 year warranties.

2.2. York Park and Ride electric bus case study

York is an example of a city working successfully with a commercial bus operator to provide electric buses on Park and Ride services. As part of their Low Emission Strategy, Green Bus Funding was obtained to provide capital grants towards the purchase of 12 electric buses to serve 2 Park and Ride sites, after it had been found that 25% of NOx emissions in the city centre came from Park and Ride buses, which are a significant part of the local transport system carrying 4m passengers pa. The electric buses are now in operation and more are planned if further grant aid is made available. The grant aid covered the difference in capital cost between a new Euro 6 and electric (around £93,000 per bus). The buses were purchased direct by First York from Optare. Buses are charged at a Park and Ride site, with charging points and an electricity sub-station provided through another grant scheme at a cost of £30,000.

At the beginning, First York were not keen on buying or operating electric buses and needed the incentive of a considerable capital grant. They had doubts about fuel and operating costs being reduced as much as was claimed (or at all). To start with, these operating issues were quite serious and had to be worked through. However they have been alleviated and First York are now willing to operate more services (with similar grant contribution). Since starting electric bus operation, First York have won a further 8 year operating contract for York Park and Ride buses, which has also given them more confidence to operate more electric buses. More information at https://www.itravelyork.info/news/council-and-first-to-extend-successful-park-ride-partnership

2.3 Bristol Hybrid geo-fencing project

In Bristol hybrid buses have been adapted to switch to electric power only in areas of identified higher pollution. This benefits specific areas but constrains the possible routes that are suitable. More information at https://www.firstgroup.com/about-us/news/first-west-england-launches-revolutionary-electric-buses

2.4 Nottingham and Reading biogas buses

Both Nottingham City Transport and Reading Buses have chosen gas buses over electric or hybrid and have invested in quite large fleets, with grant aid. Both have linked their use of gas from the national gas grid, via a compression unit to create CNG, with a biogas plant that inputs equivalent amounts to the grid. Note the high cost of compression units (£2m). More information at https://www.nctx.co.uk/about-us/gasbus/ and http://www.reading-buses.co.uk/cng-faqs/

3. Option development and assessment - fuel options

3.1 The first phase of option development and assessment relates to fuel options, identified as pure electric, hybrid (covering a variety of electric/diesel hybrid options) and gas. Physical requirements for Cambridge for new buses of all three fuel types are summarised in the Appendix. Financial requirements for initial capital are significant, especially for pure electric buses:

Figure 2: Financial requirements (initial capital)

	Vehicles	Fueling infrastructure	Fuel supply enhancement
Pure electric	Up to 100% more than diesel	Overnight chargers (Nottingham £300k for 80-100 buses) and possibly rapid chargers (£12k each) depending on type of bus (govt grant 75% in past)	Depends on type of buses and survey
Hybrid	Up to 50% more than diesel	May need overnight chargers. Govt grant in past.	Unlikely
Gas	Up to 35% more than diesel	Compression unit needed. Very expensive - £2m. Govt grant in past.	Needs additional plant or access to grid.

3.2 Figure 3 provides a high-level assessment against objectives. All options contribute to carbon reduction objectives, and all appear to receive good passenger feedback, being quieter and often with a more comfortable ride than diesels. By themselves, they do not contribute to congestion reduction but all can form an important part of a congestion reduction and air quality improvement package. Pure electric buses achieve most benefit overall but with higher initial costs and possibly more risk, though this is reducing over time. Hybrid electric buses provide less overall benefit but at less cost and less risk. They can also be adapted to specific circumstances to target for example the air quality benefit. Gas is really a mid-way option, also with less overall benefit and less risk.

Figure 3: Fuel options assessed against objectives

	Air quality	Carbon reduction	Revenue saving
Pure electric	**Zero vehicle emissions**	**Excellent and can be linked to sustainable generation**	**85% saving in operational costs (Nottingham)**
Hybrid electric	**Variable. Between 30-40% reduction in emissions in London. Can be improved eg Bristol**	**Partial and variable**	**Variable but usually small reductions only**
Gas	**Nottingham - cleaner than Euro 6. Reading - 55% less NOx**	**Good if linked to sustainable generation (bio-gas)**	**Evidence so far on efficiency and costs not clear**

3.3 The current prevailing view is that hybrids and gas buses are temporary expedients, often helping to ease the way to the real solution, which is pure electric. London is proposing to stop buying diesel only buses by 2018, and to continue expanding their hybrid fleet but are

increasingly also buying electric buses, in effect missing out the hybrid interim stage. While most commercial operators are not buying pure electric without subsidy, as the business case cannot currently be sustained, they are increasingly looking to electric as the likely fuel for the future.

4. Option development and assessment - routes and services

4.1 Technology has now reached the point that most urban and suburban services can be used by all three alternatives if the required charging/fuelling infrastructure can be provided. Given the additional capital costs of all three, but especially pure electric, it would seem best to focus on the routes and services with the biggest impact in terms of air quality and image. In Cambridge these have been identified as:

- Park and Ride services, either a pilot for one or two Park and Ride services or all
- Busway services, again either some or all
- Inner city shuttle

4.2 Park and Ride services offer the following advantages:

- They have space at the Park and Ride sites for charging equipment and any other requirements such as electricity substations
- Services are normally contracted to operators with good quality service standards already required
- Routes are usually reasonably short, direct and seen as prestigious
- They offer the best demonstration potential as they serve a wider range of passengers

The Park and Ride sites around Cambridge are currently operated by Stagecoach East under a partnership arrangement with the County Council. They are not subject to a formal contract as they are commercial services. They use double deckers, 22 of which are new Euro 6 diesels costing a total of £3.5m in 2016. It should be noted that the difference between these and new alternatively-fuelled vehicles may not be great in terms of passenger perception or impact on air quality. A full electric Park and Ride service would require at least 30 double deckers costing approximately £7.5m, although a trial could be undertaken for two services with 12 vehicles (£3m total cost). Capital costs could probably be reduced if double deckers were replaced with 70-passenger large single deckers like Nottingham's BYD buses, but these are not currently favoured by Stagecoach East as they still have lower capacities and could be inadequate at peak times.

4.3 Also it appears that there is insufficient power supplies at any of the Park and Ride sites and a survey would be required to identify capacity and what needs to be done to improve it. This could be expensive, depending on what is currently there and what type of buses are chosen. In Nottingham the costs of power supply enhancement have exceeded £200,000.

4.4 Induction charging is not considered necessary in Cambridge, and has some disadvantages. Induction systems used to be attractive since they only required one small on-board battery leaving valuable seating space. This advantage has been reduced now with better batteries taking up far less space and giving 18 hours service on one charge. With induction chargers, if one charger is down or inaccessible, it affects all buses in the service, while top-up rapid chargers, if they are required at all, can be doubled up.

4.5 A further option is to replace some or all of the buses on the guided busway to St Ives. This serves more distant Park and Ride sites as well as the Northstowe development and would be a unique development of alternatively fuelled buses with an already innovative infrastructure, which may be of particular interest to potential grant providers. Some of the buses on the busway are already single decker’s, and some do not travel the entire busway length, so this could be quite a flexible option depending on finances available. There would be space for charging locations along the route, though electricity supply would have to be

assessed and possibly enhanced. Both Stagecoach and Whippet operate on the busway, and an initiative to provide electric buses here could potentially include both operators.

4.6 Nottingham runs an electric city centre shuttle bus service that serves the two shopping centres, the two bus stations and the rail station. This was once free to use but now forms part of a Park and Ride service with standard fares and using the large BYD buses. Charging facilities are available at one bus station and at the Queens Drive Park and Ride site eco hub. Making the bus electric has been a benefit to city centre air quality, and therefore to shoppers and visitors. A similar service in Cambridge, joining the rail station, bus station and major shopping facilities and visitor attractions could provide similar benefits, with significant demonstration potential. Care would have to be taken to ensure it did not duplicate routes or take passengers away from existing services, and in finding a suitable uncongested route. As it would be a new service, new vehicles and bespoke contract arrangements would be needed anyway. If suitable capital and revenue funds were available, this could be a quick win for the city.

5. Option development and assessment - commissioning the services

5.1 Alternatively fuelled bus services can be procured in the following ways:

a. By standard competitive tender for operators to bid for the provision of the buses and operation of non-commercial or special services (eg Park and Ride services). The tender could make allowance for additional capital costs and reduced ongoing costs of the alternatively fuelled buses. This option would be likely to be acceptable to operators and is probably the most straight-forward, being purely a financial transaction.
b. By standard competitive tender for operators to bid for the operation of non-commercial or special services with the buses themselves bought and retained by the County Council. The contract could be specified so that the local authority receives the benefit of the lower ongoing costs. This option has been suggested by the Greater Cambridge Partnership Access Team as it is similar to the Nottingham model and might be more easily linked to capital grant aid (eg Green Bus funds) and demonstrable savings.
c. By entering into a Quality Bus Partnership (QBP) with one or more selected operators (or extending an existing one), the Councils could negotiate the provision of the buses and services, and also negotiate additional contributions to a better bus strategy in general. For example, improvements to fares, ticketing, information and other benefits could be negotiated, in return for the Council providing better infrastructure and/or foregoing some of the benefit of the lower operational costs. This is the appropriate option for commercial services and is likely to be complex but with greatest benefit.
d. By persuading one or more operators to introduce alternatively fuelled buses themselves, without reference to any contracts or partnerships, for use on their commercial networks. This is unlikely to work without some subsidy or grant aid offered to the operators, as currently business cases do not stack up. If subsidy is offered, it would have to be on the basis of the same offer to all commercial operators, and it should be noted that without a suitable partnership arrangement the ongoing reduction in costs would accrue to the operator.

5.2 Which if these methods is chosen should be carefully considered internally. In Cambridge option c is considered preferable, because:

a. It is likely to be acceptable to the potential operators, and offers them a say in the details of the proposal
b. It is most appropriate for a pilot scheme, and encourages true partnership working
c. It does not provide for the buses to be bought and retained by the local authority, as was requested. But it should be recognised that the operators are skilled in bus purchase and specifications and there are other ways of exploiting the ongoing cost

reductions for general benefit. As only one electric double decker bus is available for purchase suitable for P&R services there will not be selection issues, although there could be for an inner city shuttle.

d. There is already a QBP arrangement for serving the P&R sites, and it would be relatively straightforward to review this (due anyway in 2018) and include provision for electric buses and services. Further extensions could ensure the expansion of the scheme to all P&R services.

6. Conclusion and recommendations

6.1 Alternatively fuelled buses are now developing fast and most have been through the testing phase and moving into the 'tried and tested' phase. Therefore many of the initial doubts about all types are being removed, and decision making criteria are becoming clearer. Essentially the decision is between the greater benefits but higher initial costs of a pure electric solution and the lesser benefits but possibly lower initial costs of hybrid and gas.

6.2 In addition, electric buses fall more easily into co-ordinated low emission and energy saving strategies. Being zero emission at point of use, they have an excellent green image, are easily understood by residents and others, and can be promoted as an exemplary initiative for tackling air quality issues. Nottingham has also shown that they can represent a clever maximisation of financial opportunities - grant aid covers the higher capital costs, but the lower operational costs, which normally cannot be grant-aided, are captured by the Council. Now that TfL is buying electric in large numbers, there is a greater choice of bus types that are more reliable and better oriented to the UK market. This means that operators are losing their initial worries about the riskiness of the new technology.

6.3 Hybrid and gas buses do provide benefits but do not represent a step-change that would inspire and give confidence to Greater Cambridge Partnership partners and the general public as a serious contribution to a more sustainable future.

6.4 Electric buses are now widely available in a range of sizes and types. Virtually any route and service in Cambridge could be served, if suitable infrastructure is provided. Local commercial operators are willing to consider them if appropriate capital subsidy can be provided. However the most practical services to convert would be Cambridge P&R services, possibly including the busway services with more distant P&Rs. A new inner city shuttle could also be a candidate. A new initiative is really only limited by the appetite and the capital funds available.

6.5 The following is suggested as a first phase:

- A pilot scheme with 12 electric buses serving 2 Park and Ride sites is developed. The suggested approximate capital requirement from the Greater Cambridge Partnership would be £1.5m for the buses (assuming 50% contribution to capital cost), with an allowance of £0.5m for chargers and electricity supply enhancement - £2m in total.
- Overnight charging infrastructure could be provided at one of the chosen P&R sites, with top-up charging provided if required at the other site and/or in the city centre, perhaps at Drummer St bus station. There is an advantage in providing chargers at public locations as other operators can also use them if the scheme is extended in the future.
- The existing QBP for the P&R services is due for review in 2018. Now would be a good time to look at changing the provisions of the partnership to allow for firstly a pilot scheme and secondly the rollout of electric buses to all P&R sites, in return for bus quality improvements over the whole network.

6.6 Summary of next steps:

a. Visit the case study sites mentioned above to see the buses in action and talk directly to relevant Councils and operators.
b. After discussion with relevant operators, put together a pilot project for electric buses in Cambridge, focusing on selected Park and Ride sites. Allow for the pilot project to be extended to all P&R sites including the busway in future years.
c. Choose the pilot services and likely bus types and commission a survey to identify charger sites and electricity supply works required.
d. Again after discussion with operators, consider a new or extended Quality Bus Partnership to lock in wider benefits.

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Appendix: Requirements for Cambridge

	Pure electric	Hybrid	Gas
Infrastructure **Charging/fuelling** **Top up charging** **Supply**	Slow overnight charging at base or terminal, fast charging top ups. Could need power supply enhancements and/or sub-station	Diesel fueling at base, generate own electricity. Some need overnight trickle charging as top up.	Ability to get gas supply from grid or direct from plant.
Routes and services **Length** **Type** **Special factors**	Range between 125-200km before top-up. Normal service length under 20km. Urban services. Flat preferred.	Length of route/service same as diesel (up to 400km service per day).	Length of route/service same as diesel (up to 400km service per day)
Vehicles **Choice** **Price/viability** **Availability** **Adaptability**	Large choice now available for single decker's, at higher prices than diesels (x2). Double decker's only one option (ADL/BYD - tested in London). Nottingham bought from Optare and BYD, York from Optare.	Large choice from many suppliers, prices 50% more than comparable Euro 6 diesels. London has had considerable quality control issues.	Nottingham City Transport bought 53 gas buses from Scania and ADL in 2017. Reading have 20 from the same suppliers bought in 2012/13. Prices 35% more than Euro 6 diesel.
Power supplies **Availability** **Cost**	Likely requirement to enhance electricity supply and provide sub-station. Nottingham cost £200k, York £30k.	Unlikely	Need for access to grid or bio-gas plant. Compression unit also required at considerable cost.
Maintenance facilities	New technology so training and local facilities required. Can be opportunity for local employment.	Same	Same

Appendix C – Residents Parking and Park and Ride capacity

1.1 Steer Davies Gleave have been commissioned to assess the likely displacement from on street parking in Cambridge should the current residents parking zones be extended to the whole of the City.

1.2 In doing this an assumed profile of the potential roll out of new zones has been provided to the consultant, this essentially building from the existing central zone outwards to cover the whole of the City over a period of three years. This is an assumption only for the purposes of modelling and does not suggest that either all of the City will be covered by a zone or that the pace of the roll out will be that fast. Ultimately, the decision of whether to have a residents' zone in a particular area rests with local residents themselves.

1.3 A potential build up in park and ride capacity has also been assumed for this exercise. There are already some minor increases in park and ride capacity at existing sites that are being developed and it has been assumed that by 2020/21, at least one of the new sites that the Greater Cambridge Partnership is planning on either the A1307, the A10 (south) or the A428 will have been constructed alongside the bus infrastructure proposals on each of those routes.

1.4 At present, there is an average of at least 1,800 free spaces at the existing five park and ride sites around Cambridge on a daily basis. In total, these currently have a capacity of 6,800 spaces.

1.5 In modelling the balance between supply and demand for park and ride spaces as a result of an extension to the residents parking zone, two scenarios have been considered. In both cases, it is assumed that the first new residents parking zone will not be introduced until 2018.

- Scenario 1: All commuter on-street parking in residential parking zones is displaced to Park and Ride.
- Scenario 2: Only commuter on-street parking that is estimated to originate from outside of Cambridge is displaced to Park and Ride, on the basis that Park and Ride is less convenient to commuters based within Cambridge who would be more likely to use public transport, walk, cycle or use off-street parking.

1.6 The following table shows the results from this modelling.

1.7 In presenting this analysis, it should be noted that this is only a theoretical exercise to demonstrate to likely relationship between demand for and supply of Park and Ride spaces. The actual balance between the two will depend on a number of factors including the pace at which the residents parking zones are rolled out, the ability to deliver the new Park and Ride capacity and other factors in addition to this that may change the demand for Park and Ride spaces.

1.8 However, it is felt that overall this presents a worst-case scenario particularly given the likely extent and pace of the roll out of residents parking zones and that in reality displacement is likely to be to a range of transport modes rather than just Park and Ride.

1.9 On this basis, the analysis demonstrates that the Park and Ride system has the capacity to absorb displaced demand from the planned residents parking zone roll out.

1.10 Further refinement of this analysis will be undertaken and the full results will be presented to the Greater Cambridge Partnership Board and the County Council's Highways and Community Infrastructure Committee in September.

Future Park and Ride supply and demand

	Supply		Spare capacity	Displaced commuter demand	
Year	Additional Spaces	Total Spaces	Assume all **new** supply available to absorb displacement	**Scenario 1:** All commuters displaced to P&R	**Scenario 2:** Commuters outside Cambridge displaced to P&R
2017	-	6,800	1,800	-	-
2018	200	7,000	2,000	900	700
2019	400	7,400	2,400	2,400	2,000
2020/21	2,000	9,400	4,400	4,300	2,900

University of Cambridge Access Strategy **20/06/2017**

Reference number 105544

WEST OF CAMBRIDGE TO CBC BUS SERVICE FEASIBILITY STUDY

SYSTRA

UNIVERSITY OF CAMBRIDGE ACCESS STRATEGY

WEST OF CAMBRIDGE TO CBC BUS SERVICE FEASIBILITY STUDY

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1. Introducton

1.1 Study Requirements

Systra has been commissioned by the University of Cambridge and the Cambridge Biomedical Campus Delivery Group to consider the potential for a new bus route to access the Campus from the west.

The aim of the study is to consider options for the provision of such a service, assess the costs and likely revenues involved and to make a recommendation as to how a service could be delivered.

This report sets out the findings of our investigations and analysis.

2. Study Context

The Cambridge Biomedical Campus (CBC) is planned to expand significantly in the years to 2025. An outline planning consent obtained in 2006 indicated that the expansion would entail:

- Expansion to the Cambridge Biomedical Campus development (referred to as the CBC). Promoted by Cambridge University Hospitals NHS Foundation Trust (the Addenbrooke's Trust) and the Pemberton Trustees in partnership with Countryside Properties and Liberty Property Trust UK. This development will extend the existing Addenbrooke's campus to expand provision of clinical services offered on the campus and to provide complementary Research and Development facilities. The development will have a gross floor area of 215,000m2, it will also include areas of public realm including the Circus, and provide part of the future Piazza along the central core of the extended campus and will connect the new and existing campus areas.
- Cambridge University Hospitals NHS Foundation Trust is planning to develop the Addenbrooke's Seminar / Conference Centre, Learning and Development Centres and hotel (referred to as The Forum). This is located on the western edge of the existing campus immediately adjacent to the CBC and serving the whole of the campus.
- In addition, Countryside Properties will develop Clay Farm and ultimately Glebe Farm. Clay Farm is located immediately east of Trumpington. It will provide approximately 2,300 dwellings, along with a Green Corridor and essential community facilities. The community facilities provided will complement rather than compete with those that already exist in Trumpington. Glebe Farm is located to the south of Trumpington between Hauxton and Shelford Roads. It would provide up to 320 dwellings.

A detailed schedule of the planned developments in terms of the new jobs expected on site is included in this report.

This level of development will place notable strain on the already congested road network in the Cambridge urban area, albeit with the provision of major infrastructure such as the Addenbrooke's Road to support the levels of movement expected.

The justification for the consideration of a new bus service is based on the Travel Plan submitted at the time of Outline planning application. This sets ambitious targets for mode share by public transport that are far higher than the current travel to work mode share by bus in the general Cambridge which in the 2011 census was 3.99%.

Bus access to the CBC from the city centre and rail station is supported by the southern section of the Cambridge guided busway which commenced operation in 2011. This allows a high frequency, high speed service to be provided.

The Universal bus route (service U) currently links the West Cambridge university site and the Madingley Road P+R site to city centre, the railway station and the CBC. This

operates between the Madingley Road P+R and CBC on a 15 minute frequency with 6 vehicles provided by Whippet Coaches after a 2015 tendering exercise. The stated objectives of the service which is subsidised by the University are to:

- Demonstrate a strong transport policy to local planning authorities
- Improve the staff and student experience
- Reduce congestion in Cambridge and associated negative impacts
- Unlock car parking space for additional development

From September the Universal route will be changed to serve Eddington instead of Madingley Park and Ride. The service will still serve Madingley Road Park and Ride users via a footpath to Eddington Avenue.

Investigations into bus priority measures for the Trumpington P+R site are being made. These, if successful could allow an effective bus route from the CBC to the M11 to be achieved. In the short term use could be made of M11 junction 11.

The Greater Cambridge city deal has promoted and secured potential funding for a major transport investment on the A1303 corridor to the west of Cambridge. Cambourne to Cambridge is a bus priority scheme. The A428 and A1303 are key routes into the city from the west and is often congested between Papworth Everard, Cambourne and Cambridge. The City Deal partners are seeking to allow better bus journeys by improving the existing, or creating new bus infrastructure, and where possible cycling links too. At the current time, detailed investigations into a park and ride site are underway as is development of a possible route for a new busway between Cambourne and the fringe of inner Cambridge. Current proposals suggest a city centre bus terminus in the Silver Street area of the city. An element of the scheme to provide a P+R facility at Madingley Mulch (A1303) is now under review as none of the possible sites identified proved satisfactory for further development work.

It is emphasized that the A428 and A1303 busway is a long term proposal which is unlikely to influence the short and medium term delivery of a Papworth Everard / Cambourne to CBC bus route.

A further potential P+R location is for a less formal site at Papworth Everard. This is not a City Deal project but could come forward independently given the probable long development period for the City Deal scheme.

3. Potential bus routes

3.1 Introduction

The potential routes for a bus service linking Cambourne and the CBC need careful consideration. Urban traffic speeds in Cambridge are among the lowest in the country at 13.8mph. Without bus priority, any new bus service would be committed to running at this speed in line with general traffic.

From inspection of DFT data and the Cambridge LTP we have derived a set of typical bus operating speeds to allow timetables and vehicle requirements to be determined.

Table 1. Cambridge Bus speeds

Bus Speeds	mph
Busway	37.2
Urban	13.8
Rural	24.0
Motorway	50.0

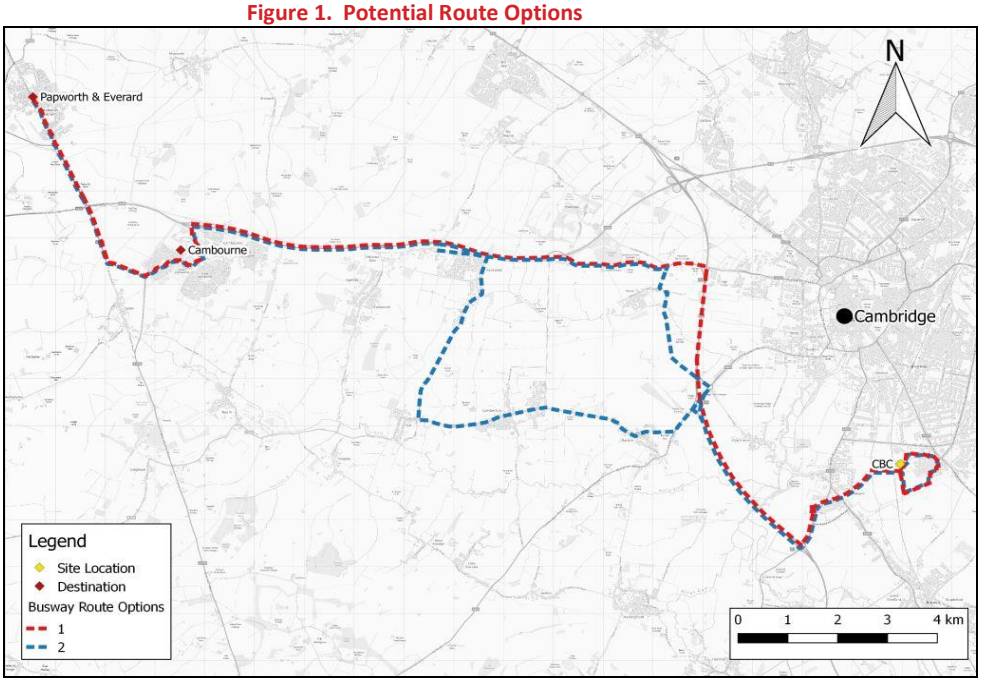
3.2 Routes and timetables

The routes developed for a dedicated service comprise three broad approaches:

- Option 1 - A route that operates on existing roads in the urban area (including the busway), uses the M11 between junctions 11 and 13 and the A1303 and A482 to Cambourne and a P+R site located at Papworth Everard.
- Option 2A - A route that leaves the urban road network at the earliest opportunity and uses rural roads to reach Cambourne and a P+R site located at Papworth Everard.
- Option 2B – A variation on Option 2A which operates via Coton instead of Hardwick in the rural area.

These routes are shown on the graphic below.

Figure 1. Potential Route Options



The distances involved for these routes are shown below.

Table 2. Route Distances

Route	Miles (one way)	Miles (round trip)
Option 1	16.3	32.6
Option 2A	17.7	35.5
Option 2B	15.7	31.4

Applying the speeds and distances involved for the three options and an allowance for turn round time at one of the route has generated a set of journey times for a single round trip on the routes.

Table 3. Journey times

Route	Single Journey time (mins)	Round trip time (mins)	Turn round time at CBC (mins)	Overall cycle time (mins)
Option 1	36	72	4	76
Option 2A	45	90	4	94
Option 2B	50	100	4	104

3.3 Current Services

Both Papworth / Cambourne and the CBC are currently served by existing bus services. In all cases a journey between Papworth Everard / Cambourne and the CBC requires interchange in the city centre or at the Madingley Road P+R site.

The current key services are:

- Citi 4 – Cambourne to City typically every 20 minutes, journey time 47 minutes (peak) 37 minutes (off-peak)
- Citi 1 - Cambridge – Addenbrooke's – Fulbourn typically every 10 minutes, journey time Cambridge to Addenbrookes 17 minutes
- Universal – Eddington (Madingley P+R) to CBC typically every 15 minutes, journey time 34 minutes.

Allowing for an interchange time penalty, a typical Papworth Everard / Cambourne to CBC journey time would be between 59 and 67 minutes.

Given this journey time assessment for the current services we consider that two facts emerge:

- That the number of current bus journeys from Papworth Everard / Cambourne to CBC are likely to be limited due to the time taken and the inconvenience of a bus to bus interchange *en-route*.
- That the current service offer would not suffer abstraction of passengers to a new direct service.

3.4 Timetables

Based on the need to provide a high level of service to make the new link attractive to passengers a series of timetable options have been identified.

As the A1303/ A428 busway scheme is still under development any guarantee about its availability cannot be given and this would not be open in time for the start of this bus service

As such, the use of the M11 offers the best journey time prospect for a Papworth / Cambourne to CBC service. This route choice could make use of the Trumpington P+R to CBC busway.

On that basis the timetable options developed will respond to the demand assessments made in section 3 of this report and the need to provide the most attractive service possible the following timetable variants have been developed:

- Alternative A - Direct all day Papworth P+R / Cambourne to CBC service (via M11) every 30 minutes.
- Alternative B - Direct Papworth P+R / Cambourne to CBC service in peak hours only (via M11) every 20 minutes

Recent good practice has shown where a direct and limited stop bus service has been instigated the use of a flexible routing between the main boarding points planned interactively to avoid congestion has been an effective way to ensure reliable journey times. Consideration of this approach would be relevant to both alternatives..

As a further option we examined the potential to extend the Universal service beyond its current northern terminus at Eddington. The option developed allowed for the following service pattern:

- Extension of the current Universal service to Papworth P+R / Cambourne. Journeys that commence at Eddington to start back at Papworth P+R / Cambourne with alternate buses off peak extended from Eddington to Papworth P+R / Cambourne. This proposal would include a limited direct peak hour service from Papworth / Cambourne to CBC to allow for commuters avoiding the need to travel through the city centre. Also included is an option to run the first journey from the railway station to Eddington from Papworth / Cambourne directly to the CBC and hence to the railway station

On further review, amending the Universal service has been found to have less potential value than a new, direct, service. This is because of the extended journey times involved (60 + minutes in each direction) would not result in a sufficiently attractive alternative to car journeys. The mix of different service patterns involved is counter-productive to passenger confidence in the bus service with policy guidance indicating that "the service pattern on each route be as simple as possible".[1] On this basis we have not reviewed use of the Universal service in further detail.

Details of the timetable options developed are included as an Appendix to this report.

3.5 Operating Costs

The operating costs of each option have been assessed using an industry standard cost model. The model covers fixed costs (e.g. vehicle acquisition, insurance, excise duty and an element of depot costs), mileage dependant costs (e.g. maintenance, lubricants, tyres and fuel) and time dependent costs (e.g. driver's wages).

To reflect local circumstances the model includes the following:

- Busway access charge of £1.74 per single journey
- Option for hybrid vehicles based on UK industry experience of a reduction in mileage based costs of circa 30%.

Table 4. Alternative A – All day stand- alone service every 30 minutes

Cost Per Year	Cost Per Bus Hour	PVR	Cost Per Vehicle
£571,882	£63.04	3	£190,627

Table 5. Alternative A – All day stand- alone service every 30 minutes with hybrid buses

Cost Per Year	Cost Per Bus Hour	PVR	Cost Per Vehicle
£561,555	£61.90	3	£187,185

[1] e.g TfL Bus Service Planning Guidelines 2012, para 24

.

Table 6. Alternative A – All day stand- alone service every 20 minutes peaks and every 30 minutes off-peak (to cater for additional peak demand)

Cost Per Year	Cost Per Bus Hour	PVR	Cost Per Vehicle
£688,686	£66.66	4	£172,172

Table 7. Alternative B - Peak hour only service every 30 minutes

Cost Per Year	Cost Per Bus Hour	PVR	Cost Per Vehicle
£321,410.57	£70.86	3	£107,136.86

Table 8. Alternative B - Peak hour only service every 30 minutes with hybrid buses

Cost Per Year	Cost Per Bus Hour	PVR	Cost Per Vehicle
£332,502.32	£73.30	3	£110,834.11

The costs include:

- Standard single decker vehicle capital cost of £180,000 per vehicle, annual lease charge of £64.490 for a fleet of 3, based on an industry standard 15 year vehicle life.
- Hybrid single decker vehicle capital cost of £275,000 per vehicle, annual lease charge of £94,045 for a fleet of 3, based on an industry standard 15 year vehicle life.

4. Demand Assessment

4.1 Growth Profile of the CBC

The CBC is expanding, the 2006 outline planning application covered a number of individual buildings and development sites. The sites currently expected to be developed are:

- Papworth Hospital
- AstraZeneca
- Abcam
- University extensions
- Atria
- Forum
- "Phase 2"
- Cambridge University Hospitals
- "Phase 3"

In terms of potential jobs at these sites and their timing the following information is the latest available. The type of development has also been recorded to inform the likely trip rates by various modes of travel.

Table 9. Predicted Jobs at CBC

	TYPE	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Committed												
Papworth	Hospital	1800										
Astra Z	Medical Research		1600									
Abcam	R&D		500									
University	R&D		700									
Indicative												
Atria (low est)	Medical Research				150	150	200					
Forum	MRC (main use)					2000						
Phase 2	R&D				500	500	500	500	500			
CuH (est)	Hospital								500	500	500	500
Phase 3	Medical Research								750	750	750	750
Max Dev		1800	2800	0	650	2650	700	500	1750	1250	1250	1250

4.2 CBC mode share

The outline planning application for the CBC extension sets a series of mode share targets by type of use. For buses these are:

Table 10. CBC Bus Mode Share

Use Type	Mode share
Hospital	
clinical	27.44%
patients	16.85%
R&D	
staff	21.65%
visitors	24.12%
Medical Research Centres (MRC)	
Staff	22.94%
visitors	25.59%

4.3 Papworth Hospital relocation

The Papworth Hospital will relocate to the CBC from 21 April 2018. As such, the Papworth Hospital would provide a base level of demand for new bus service.

At the time of its most recent travel survey the hospital had the following employees living in the Papworth and Cambourne areas:

- Papworth – 256
- Cambourne – 121
- Total - 377

Of these it can be assumed that due to the travel plan measures at the site a number will travel by bus to work. At present no valid alternative to car exists with bus journeys taking substantially over 1 hour, inclusive of a city centre interchange.

Applying the hospital target staff bus mode share we estimate that 116 of the 377 employees currently living at Papworth / Cambourne will use bus to access the CBC site. At its maximum level this equates to a potential annual patronage of 58,464 new single journeys per annum (based on 252 working days per year and a round trip being 2 journeys).

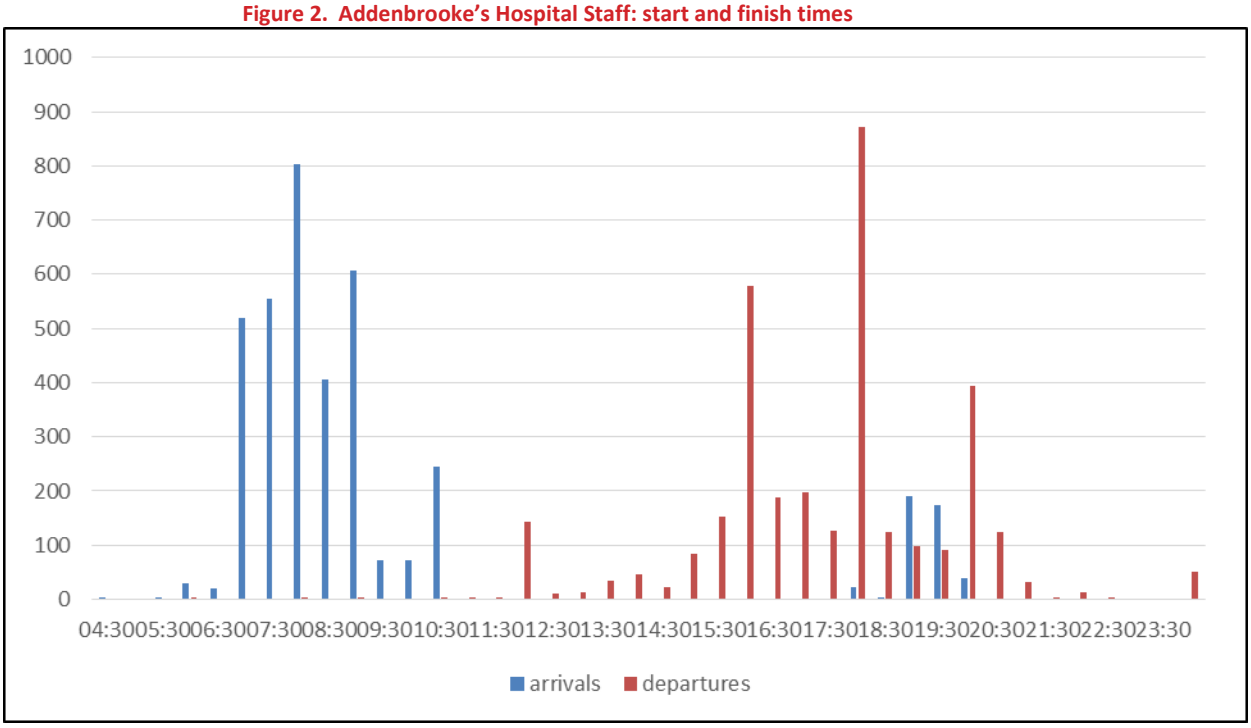
As the Papworth clinical staff has a 07:00 shift start, the timetable of the bus route will need to reflect this.

The move of the hospital to the CBC is a potential opportunity to review the current parking eligibility criteria which could generate greater levels of bus travel. At the current time, the specific policies are being determined but the commitment to a new bus service offer could assist in the development of new criteria for parking eligibility.

4.4 Hospital Staff Working Patterns

To assess the potential demand for travel to the CBC we have reviewed the travel to work data from the Addenbrooke's hospital site.

Figure 2. Addenbrooke's Hospital Staff: start and finish times



The evidence from recent staff surveys suggests that there is a willingness on behalf of employees, where possible, to flex their journey times to coincide with the public transport offer at the hospital. The majority of non-clinical staff have potential access to flexible working initiatives that would support this view.

4.5 CBC employees locations

The location of CBC employees is the key to determining the likely demand for a new bus service.

Addenbrooke's Hospital has a detailed travel survey that identifies home locations by postcode. In this case CB23 is the most likely area from which employees would use the new bus route. The hospital survey indicates that 4.4% of employees travel from CB23 to the hospitals.

A further survey of University staff indicated that 8.1% of staff surveyed lived in the CB23 postcode area. Of these, 4.0% of the overall sample worked at the CBC / Addenbrooke's location.

As such, the indicated rate of 4.4% of trips to work at the hospitals has been used as a proxy for CBC employees being 'in range' of the new bus service has been assumed. This excludes P+R demand from postcode areas to the west of Cambourne which is considered below.

Of these from the hospital survey data 48.2% arrived at work between 08:00 and 09:00. Between 07:00 and 09:00 76.8% of staff arrived.

4.6 Bus service demand – 'normal passengers'

To assess the 'normal' demand for a new bus service we have taken the assessment of employee locations and considered these against a number of trip rates.

The trips rates used reflect the following

- The mode share target for buses from the CBC established in the outline application travel plan (varies by type of use in individual buildings)
- An increased mode share for bus based on the possibility that the planned 600 space multi-story car park at the CBC may not be constructed. In effect, the car borne trips that would have used the car park have been proportionally reallocated to non-car modes. It is important to note that the Cambridge University Hospitals plan to make a planning application for this car park in the near future.
- These targets are also specific to the type of use envisaged.

Table 11. CBC Bus Mode Share

PT mode share	From CBC Travel Plan	Uplifted Rate Due to Car Park Quantum Reduction
Hospital		
clinical	27.44%	30.55%
patients	16.85%	
R&D		
staff	21.65%	24.36%
visitors	24.12%	
Medical Research		
Staff	22.94%	25.82%
visitors	25.59%	

The demand assessment has used this mode share information and the employee locations to determine the number of employees who would travel by the proposed bus service and demand between 08:00 and 09:00.

Table 12. Daily Demand At CBC Travel Plan bus mode share

year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Total	0	30	2	8	27	6	6	20	14	14	14
Cumulative	0	30	32	40	67	73	79	99	113	127	141
0800 - 0900 cumulative	0	15	16	20	34	37	40	50	57	64	71
0700-0900 cumulative	0	24	26	33	54	59	64	80	91	102	113

Table 13. Daily Demand at CBC Travel Plan bus mode share + car park redistribution (to work trip only)

year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Total	0	33	2	8	32	6	6	21	15	15	15
Cumulative	0	33	35	43	75	81	87	108	123	138	153
0800 - 0900 cumulative	0	16	17	21	37	40	42	53	60	67	74
0700-0900 cumulative	0	26	27	34	58	63	67	83	95	106	118

4.7 Site Visitors – Hospital

Hospital "visitors" fall into four distinct categories.

- Admitted
- Outpatients
- Emergency
- Visitors / persons accompanying patients

Data from the Addenbrooke's site indicates that on a sample day surveys indicated that the following visits took place:

Table 14. Addenbrooke's "Visitors"

Postcode	Admitted	Outpatients	Emergency
CB23	22	173	15
PE28	13	53	3
PE29	11	4	0

To fully assess the demand for the bus service we have assumed that all emergency patients due to their condition would arrive by ambulance or car. We have further assumed that 'visitors' will arrive in accordance with the target mode shares (bus 16.85%) and that each 'visitor' for the Admitted and Outpatients categories generate a further trip by an accompanying person.

Table 15. Addenbrooke's Hospital 'Visitor' Numbers

	Admitted	Outpatients	Assumed Accompanying person	Emergency
CB23	4	30	34	0
PE28	3	9	12	0
Pe29	2	1	3	0
Total	9	40	49	0

In addition to the Addenbrooke's visitors, Papworth when located at CBC will generate a similar type of traffic in 'visitors'. In the absence of any current data we have made an assumption that this would be at 50% of the rate at Addenbrooke's.

Applying this 50% uplift gives the following hospital visitor numbers.

Table 16. Hospital Visitor Number Including Papworth Hospital

	Admitted	Outpatients	Assumed Accompanying Person	Emergency
CB23	4	30	34	0
PE28	3	9	12	0
Pe29	2	1	3	0
Total – Non Papworth	9	40	49	0
Papworth Visitors (est)	5	20	25	0
Total Daily				148

4.8 Site Visitors – Non Hospital

The CBC Travel Plan /Transport Assessment indicates that non-hospital visitors will be at a ratio of circa 20% of employee numbers. If this is applied to the overall demand numbers, the following daily demand can be expected.

Table 17. Non Hospital Visitors

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Non-hospital site visitors (20% estimate from TA)	0	33	34	36	43	45	47	50	52	54	56

4.9 P+R demand

To assess the Park and ride demand we have reviewed the Addenbrooke's Hospital and University travel surveys to identify the level of users that would be likely to use the A428/A1303 route to the CBC from the west. This has considered the following postcodes:

- SG9
- SG19
- PE19
- SG18
- SG7
- MK1 to MK43

Journeys from these postcodes represent 2.97% of the overall employee total in the Hospital survey.

We have further considered the relative journey times by current bus services between Cambourne and City Centre and a new direct route as well as assessing the time of journeys expected by bus and car. This when coupled with the relative values of time for bus passengers and car drivers indicates that if the busway option were followed to deliver a P+R offer then a potential uplift of 43% in bus share beyond the figures already identified could be achieved.

A note of caution is that this high figure would only apply to the M11 option due to the lack of improvement in on-road journey times in other, rural, routings considered.

If the M11 option were followed the estimated maximum uplift in passenger numbers due to P+R would be:

Table 18. P+R Daily Demand Uplift

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Increase	0	31	2	7	29	6	6	20	15	15	15
Cumulative	0	31	33	40	69	75	81	101	116	131	146

At this stage of development of the A428 busway scheme the demand assumed to be attributable to P+R to the CBC should be treated with caution. P+R demand to CBC would be possible should a hybrid option be developed or the option to run via the M11 motorway for part of the route be taken forward.

Also it is known that, beyond general P+R demand a specific demand for P+R use by Papworth employees can be identified.

The Papworth hospital travel survey indicates that the following towns are the home location for the following number of employees:

- Bedford - 21
- St Neots - 176

Due to the potential to manage the parking habits of this group into P+R we have assumed that this group would access the CBC site according to the travel plan bus mode share for employees (27.44%).

This would indicate that this would generate a further 54 users each day.

4.10 Overall Demand Profile and Annual Demand

To make a revenue estimate for the new service the base demand and the predicted new demand have been summated to give a full picture of the likely demand for a new bus service. This assessment includes all know demand from the calculations above.

At this stage we have assumed that the enhanced mode share for buses is viable given the limited prospects for the provision of an additional multi-story car park.

Table 19. Overall Demand Assessment

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Papworth relocation	116	116	116	116	116	116	116	116	116	116	116
Employees	0	33	35	43	75	81	87	108	123	138	153
Non-hospital visitors	0	7	14	23	38	55	73	95	120	148	179
Hospital patients + visitors (including Papworth estimate)	148	148	148	148	148	148	148	148	148	148	148
Non Papworth P+R	0	31	33	40	69	75	81	101	116	131	146
Papworth P+R	54	54	54	54	54	54	54	54	54	54	54
TOTAL (estimated daily single journeys)	319	390	401	425	501	530	560	623	678	736	797
Estimated Single Journeys / Annum	160,776	196,560	202,104	214,200	252,504	267,120	282,240	313,992	341,712	370,944	401,688

4.11 Growth

There is a general need for more housing in the Greater Cambridge area. Initial indications suggest that further iteration of the Local Plans involved would result in the need to allocate a large number of additional houses in the Cambourne area.

A preliminary review of possible numbers suggests that up to 3,100 new houses could be accommodated on the Cambourne West and Bourne Airfield sites by 2031. The potential for a further 2,100 new homes post 2031 is also under consideration.

Whilst these numbers are not confirmed nor formally included in the planning system it would be appropriate to conduct a sensitivity test only to account for this growth. Given the current level of demand predicted a 50% increase in service demand would reflect this additional source of demand. If this is applied to the workforce and visitors the daily demand would be:

Table 20. Annual Demand Sensitivity Test (+50%)

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Base Demand	160,776	196,560	202,104	214,200	252,504	267,120	282,240	313,992	341,712	370,944	401,688
Growth +50%	241,164	294,840	303,156	321,300	378,756	400,680	423,360	470,988	512,568	556,416	602,532

4.12 Capturing the Demand

The key to implementation of a new Papworth / Cambourne to CBC bus service will be the timetable offered. The demand calculations assume that the current presumptions about car parking spaces are maintained and that the car park management arrangements remain at least at the current level of intervention.

We have noted that the current mode share by bus to the CBC site (the University / Addenbrooke's / CUH site only) is circa 13%. Improved bus services and further enhancements to parking the staff car parking eligibility criteria and associated policies

will enable further increases in mode shares to the predicted levels and will be policed by the relevant planning requirements.

The demands are from disparate sources:

- Papworth Hospital relocation (Cambourne and Papworth located staff)
- Non-hospital employees
- Non-hospital site visitors
- Hospital patients + accompanying visitors (including an estimate for Papworth Hospital relocation)
- Non-Papworth Hospital P+R

- Papworth Hospital related P+R

Given the disparate sources of demand and the specific hospital requirements for all day movements, e.g. for flexible hours staff and patients / visitors. An all-day service would appear to be most relevant to attracting the highest level of demand.

4.13 Revenue

As parking at the CBC is currently charged in line with the existing Addenbrooke's Hospital pricing strategy any bus service pricing strategy would need to reflect this. It would also need to reflect the pricing strategy at the nearby Trumpington (M11) P+R site which is subject to expansion plans to address known capacity issues.

A further direct comparator is the Universal service which currently has a £2 fare for general users and a £1 fare for University card holders for single journeys unless a concessionary pass is used.

Given the additional distance from Eddington to Papworth / Cambourne it is suggested that for comparative purposes a £2 fare for all single journeys represents a useful starting point for a revenue analysis.

By way of considering 'normal' bus services a weekly Stagecoach pass for the wider Cambridge area is £25.00 for 7 days so the £2 single fare represents a broadly valid comparator.

In terms of P+R, the current P+R Cambridge wide offer of £1 to park and £3.30 per person on the bus (at the Trumpington P+R) is an appropriate benchmark but in the light of the current CBC parking arrangements is unlikely to gain traction in the short term unless accompanied by further CBC parking management measures.

It should be noted that any normal new bus service would experience a build-up in demand of between 1 and 3 years as travel patterns adjust. In the case of the CBC, the rate of expansion, the ability to manage car parking proactively and the step change in potential demand due to the Papworth Hospital relocation all indicate that this would be less prevalent at the CBC.

A baseline assessment of the highest patronage scenario indicates maximum revenues set out in the table below when allowance for inflation at 3.0% per annum is made.

Table 21. Initial Annual Revenue Assessment – Maximum Revenue (£)

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Revenue (£2 single fare) + inflation 3%	321,552	404,914	416,334	441,252	520,158	550,267	581,414	646,824	703,927	764,145	827,477

4.14 Scheme Cash Flow Estimate

To allow an informed decision about procurement of the service we have undertaken a cash flow analysis based on the known demand and costs information. At this stage the cash flow analysis takes the estimate revenue and operating costs for the service using a high specification standard single decker bus on a 30 minute frequency all day service.

Inflation has been applied to costs and revenues at 3% p.a.

This excludes any effect of housing growth in the Papworth and Cambourne area.

Table 22. Cash Flow

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Costs (inflated)	£571,882	£589,038	£606,710	£624,911	£643,658	£662,968	£682,857	£703,343	£724,443	£746,176	£768,562
PE P+R lease	£150,000	£150,000	£150,000	£150,000	£150,000	£150,000	£150,000	£150,000	£150,000	£150,000	£150,000
Est Revenue	£321,552	£404,914	£416,334	£441,252	£520,158	£550,267	£581,414	£646,824	£703,927	£764,145	£827,477
Nett	-£400,330	-£334,125	-£340,375	-£333,659	-£273,500	-£262,701	-£251,443	-£206,519	-£170,516	-£132,032	-£91,084

The CBC has, in principle, secured the following funding contributions to the annual operating costs for at least 3 years:- £125,000. Taking this into account the net year 1 operating loss is therefore estimated to be:

£400,330 – £125000 = £275,330

This would make the cash flow situation for the first 4 years of operation:

Table 23. Revised 4 year Shortfall after 'external' funding is included

Year	2018	2019	2020	2021
Nett Position	-£275,330	-£209,125	-£215,375	-£208,659

4.15 Procurement and Exit Strategies

The procurement of the operation of the new bus route should be straightforward in principle. A lead organisation from amongst the CBC partners would need to be identified to lead the procurement exercise and allocation of subsidy payment levels between CBC organisations agreed.

The tender specification should include:

- Operator Qualification – PSV operator's licence, insurances, H&S & employment management systems etc.
- Experience and market knowledge requirements
- Base specification
- Reporting and monitoring requirements

The tender should include opportunity for bidding bus operators to provide alternative service and vehicle specifications that would achieve the new service's objectives. We would also recommend that a revenue sharing arrangement be considered to give incentives for operators to market and deliver an excellent service and to give incentives to CBC organisations to promote their travel plan policies.

We envisage that it would be correct to test the market for the service operation on a regular basis. This would include reappraisal of the service's needs and uptake including timing of an increased peak hour frequency as demand develops. At this point a decision would need to be made about how to continue or not. At that point consideration would to be given to the residual value and redeployment of any publically funded assets (e.g. buses). Although a local authority can let a bus operations (subsidy) tender for up to 8 years[2], it would appear prudent that a shorter contract would be desirable given the untried principles of a direct 'orbital' bus route such as this.

Whilst commercial operation is highly unlikely in the short term, with careful management attention such a situation is possible in the medium / long-term. Both this long-term possibility and the regular review and re-letting of the operating contract indicate that an exit strategy would be available should this be proved necessary.

[2] Local Transport Act 2008, section 70 - Extension of maximum length of subsidised services agreements

5. Review of Route and timetable options

5.1 Introduction

This section compares the options identified and the opportunities and issues with each. An assessment of the potential for delivering the predicated demand is also made. At this stage no formal recommendation as to a best option is made to allow the proposals to be subject to review by the University and CBC partners.

5.2 Options Summary

Route Options

- Option 1 – Via M11
- Option 2A – Rural via Hardwick
- Option 2B – Rural via Coton.

Timetable Options

- Alternative A – 'All day' (including sub-option for 20 minute and 30 minute off peak service)
- Alternative B – 'peak hours' only.

5.3 Analysis

5.3.1 The analysis has developed three route options ("Options 1, 2A and 2B) and two timetable options ("Alternatives A and B") to provide a Papworth Everard P+R / Cambourne to CBC service. Observations on each is made around key themes and key questions.

Route

Is the route suitable to providing a direct Papworth Everard to Cambourne to CBC service ?

Will the route pick up P+R demands ?

Infrastructure

Is bus priority infrastructure available ?

What are timescales for infrastructure investment ?

Timetable

Does the proposed timetable deliver a direct (no interchange) service from Papworth Everard to Cambourne to CBC ?

Does the timetable make use of existing resources or does it require a stand-alone new set of resources ?

Costs

Does a breakeven position appear likely ?

Demand

Does the service proposed appear likely to attract a large proportion of calculated demand ?

Table 24. Route Assessment

Route	Strength	Opportunity	Weakness	Threat
Option 1 – Via M11	No new infrastructure requirements Good end to end journey time. Make use of existing southern busway section between Trumpington P+R and CBC)	Early delivery possible Longer term potential benefits from Western Orbital road		Expansion to Trumpington P+R
Option 2A – Rural via Hardwick	No new infrastructure requirements Avoids some key congestion 'hotspots' Makes use of existing southern busway section between Trumpington P+R and CBC)	Early delivery possible	Still requires bus to run on rural roads with slower journey time	Would require delivery on road bus priority for competitive journey times
Option 2B – Rural via Coton	No new infrastructure requirements Avoids some key congestion 'hotspots' Makes use of existing southern busway (Trumpington to CBC)	Early delivery possible	Still requires bus to run on rural existing roads, slower journey time	Would require delivery on road bus priority for competitive journey times

Table 25. Timetable Review

Timetable	Strength	Opportunity	Weakness	Threat
Alternative A – 'All day'	Fast route – direct service All day service – maximum opportunity to capture users Could run via A1303 busway in the future Stand-alone operation reduces operational delay risk	Provide new service and journey opportunities – scope for growth may be wider New branding possible for stand-alone service	High operating mileage Limited sharing of resources with other services	Commercial risk due to new route
Alternative B – 'peak hours' only	Fast route – Direct service Could run via A1303 busway when open Stand-alone operation reduces operational delay risk	Provide link for majority of users at lower costs Could be extended into all day service when demand proven New branding possible for stand-alone service Could have other off-peak use for the vehicles	Limited potential for additional patronage due to service hours Peak hours service only does not cater for wide range of return journey times – service would need to be tailored around return times	Commercial risk due to new route but lower operating cost requirements than Alternative A

Table 26. Costs Review

Costs	Strength	Opportunity	Weakness	Threat
Alternative A – 'All day'	Robust costs on a stand-alone basis	Ability to reduce costs should more bus priority be delivered Potential to reduce off-peak frequency to	High costs	High commercial risk

		reduce costs		
Alternative B – 'peak hours' only	Robust costs on a stand-alone basis	Ability to reduce costs should more bus priority be delivered	High costs for level of service due to fixed costs of 4 vehicles	High commercial risk

Table 27. Demand Considerations

Demand	Strength	Opportunity	Weakness	Threat
Alternative A – 'All day'	Good for Papworth and Cambourne to CBC demand Provides maximum opportunity to tap into estimated demand	As a stand-alone product easy to promote to new markets Can attract non-employee markets	Limited intermediate markets – may not fully realise predicted demand Breakeven unlikely in medium term	P+R demand uncertain due to CBC parking management requirements May need to rely on Cambourne housing growth to achieve viability Long time for demand build-up
Alternative B – 'peak hours' only	Good for P+R and Cambourne to CBC demand Captures high % of estimated demand	As a stand-alone product easy to promote to new markets Could be extended into all day service when demand proven	Limited intermediate markets – may not fully realise predicted demand Return traffic may be choked by lack of off-peak return journeys Breakeven unlikely in medium term	P+R demand uncertain due to CBC parking management requirements Long time for demand build-up

Table 28.

Appendix – Indicative Bus Timetables

Alternative A – Every 30 minutes all day service Papworth / Cambourne to CBC via M11

PE P+R	06:10	06:40	every 30 minutes until	18:00	18:30
Cambourne	06:13	06:43		18:03	18:33
CBC	06:46	07:16		18:36	19:06
CBC	06:50	07:20		18:40	19:10
Cambourne	07:23	07:53		19:13	19:43
PE P+R	07:26	07:56		19:16	19:46

Alternative B - Every 30 minutes peak hours only day service Papworth / Cambourne to CBC via M11

PE P+R	06:10	every 30 minutes until	09:10		15:10	every 30 minutes until	18:40
Cambourne	06:13		09:13		15:13		18:43
CBC	06:46		09:46		15:46		19:16
CBC	06:50		09:50		15:50		19:20
Cambourne	07:23		10:23		16:23		19:53
PE P+R	07:26		10:26		16:26		19:56

GREATER CAMBRIDGE PARTNERSHIP

Growing and sharing prosperity

Delivering our City Deal

Report To:	Greater Cambridge Partnership Joint Assembly	19 July 2017
Lead Officer:	Tanya Sheridan, Greater Cambridge Partnership Programme Director	

Improving Greater Cambridge Partnership Governance: Cover note for the Joint Assembly

Purpose

1. This note supplements the report to the Greater Cambridge Partnership Executive Board of 26th July on improving Greater Cambridge Partnership governance. It summarises particular questions for the Joint Assembly. These are in addition to general pre-scrutiny of the proposal.

Key points and questions for the Joint Assembly

2. The paper recommends a package of governance improvements for Executive Board decision. These touch on both the Joint Assembly and the Executive Board. In addition to general pre-scrutiny, the Joint Assembly is asked to:
   1. **Agree** its nomination of members to the proposed Portfolio Working Groups (Appendix 2 of the report and Background below).
   2. **Agree** the draft principles for setting its Work Programme (at appendix 5 to the report), which set it within the overall Greater Cambridge Partnership governance framework.
   3. **Agree** to a Joint Assembly work shop on the work programme, to be scheduled around the turn of the year.

Background to the Working Groups

3. The Joint Assembly agrees which of its members to nominate to the Working Groups, ensuring that where possible each: includes Councillors, business and academic representatives; brings in perspectives from Cambridge and South Cambridgeshire; and makes the most of individual Joint Assembly members' expertise. Each Joint Assembly member is asked to participate in at least one group, but no more than two, to spread the workload.

4. Each Working Group consists of the relevant Portfolio Holder, who chairs, and up to six Joint Assembly members.

5. The five Working Groups are:
   a) Transport
   b) Housing and strategic planning
   c) Skills
   d) Innovation and Smart Cities
   e) Economy and Environment

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GREATER CAMBRIDGE PARTNERSHIP

Growing and sharing prosperity

Delivering our City Deal

Report To:	Greater Cambridge Partnership Executive Board	26 July 2017
Lead Officer:	Tanya Sheridan, Greater Cambridge Partnership Programme Director	

Improving Greater Cambridge Partnership Governance

Purpose

1. Effective governance arrangements are key to delivering the Greater Cambridge Partnership's vision and ambition. The Partnership's governance arrangements need to ensure: decision-making that is prompt yet considered and informed by good evidence; involvement of partners; and successful delivery of strategies, programmes and projects. This paper seeks agreement to a package of proposals to strengthen our governance. They aim to make better use of the expertise of Joint Assembly members earlier in the project and programme development lifecycle, to strengthen pre-scrutiny and ensure clear roles and responsibilities. It also sets out how the public questions process is being improved and stakeholder engagement broadened.

Recommendations

2. It is recommended that the Executive Board agrees the following package to strengthen governance and member involvement:

   (a) **Agrees** the Portfolios, the generic portfolio role description and their allocation between Board members (Appendix 1)

   (b) **Agrees** to the creation of the five, portfolio-themed informal Board and Joint Assembly Working Groups to bring the energy and expertise of Joint Assembly members to strategy and project development earlier and agrees their membership and terms of reference (Appendix 2).

   (c) **Agrees** Board meetings should be 2-monthly during 2018, with a review of frequency midway through the year.

   (d) **Agrees** there should be a longer interval between the Assembly and Board of around 3 weeks as soon as practicable and notes the proposed reporting improvements of that advice at appendix 3.

   (e) **Agrees** the principles for officer delegations and scheme of delegation for the Greater Cambridge Partnership in Appendix 4.

   (f) **Notes and endorses** the principles for the setting of the Joint Assembly work programme in Appendix 5.

   (g) **Agrees** to a review of governance arrangements commencing a year after implementation, to consider how effective the changes have been.

(h) **Notes** other actions taken to improve public questions and ensure all Executive Board member declarations of interest are up to date.

Reasons for Recommendations

3. The above package of recommendations represents a practical set of improvements to the current arrangements that preserves identified strengths of the current arrangements, whilst addressing identified weaknesses. It enables the advice and expertise of the Joint Assembly to be used systematically in the development of strategies, programmes and policies, strengthens pre-scrutiny, shares work load between Board members and clarifies roles and responsibilities. Clarifying roles and responsibilities, strengthening pre-scrutiny and improving engagement and communication also addresses public concerns around these issues.

Background and considerations

4. The Greater Cambridge City Deal agreement between Government and the Greater Cambridge partners sets out the basic principles and expectations for Governance, including the importance of an effective and efficient Governance structure to ensure delivery of the infrastructure programme. It sets out the decision-making role of the Executive Board, its principle of decision-making by consensus and the role of the Joint Assembly.

5. The framework for Governance for the Greater Cambridge Partnership is set out in the Executive Board and Joint Assembly Terms of Reference and Standing Orders. This framework is set by the three Greater Cambridge Partnership Local Authority partners – Cambridgeshire County Council, Cambridge City Council and South Cambridgeshire District Council. The Greater Cambridge Executive Board is a Joint Committee of the three Councils, established by Cambridgeshire County Council under section 102(1)(b) of the Local Government Act 1972 and by Cambridge City Council and South Cambridgeshire District Councils under section 9EB of the Local Government Act 2000. The Joint Assembly is a Joint Advisory Committee of the three Councils, established under section 102(4), Local Government Act, 1972. Any changes to the Terms of Reference and Standing Orders of either body must be agreed by all three Councils.

6. It is within this framework that the Executive Board can shape the workings of the Greater Cambridge Partnership Governance arrangements. Furthermore, each Committee's powers and remit are as set out in their Terms of Reference. The Joint Assembly's Terms of Reference specifically permit it to set its own work programme consistent with its established remit and purpose.

7. Executive Board and Joint Assembly members came together to discuss the strengths and areas for improvement of the existing Greater Cambridge Partnership Governance arrangements. The following key strengths were identified:

- The involvement of business and academic representatives brings a lot to our partnership and its governance.
- Being able to **take decisions quickly** to deliver outcomes and **seeking consensus**, as well as involving a range of players.

Along with the following areas for improvement:

- **Insufficient overview:** Assembly and Board members need to be involved more and earlier in developing strategies and projects ahead of decisions.
- Insufficient clarity of **roles and responsibilities** – in particular, the role of the Joint Assembly is not sufficiently developed and leadership responsibilities could be clearer.
- Also, the role of the **Local Liaison Forums** needs reviewing, along with handling of interests.
- Decision-making is excessively drawn out, yet also needs to be more deliberative and have **stronger scrutiny.**
- The **quality of evidence** and the expert input to inform decision-making needs to be improved.

8. A package of Governance improvements has been developed, working with Board and Joint Assembly members, to address these weaknesses, whilst preserving the strengths of the current arrangements. The elements of this package are:

   (a) Agreement of **Portfolio roles** for Executive Board members, as well as a **scheme of delegation** to define officers' tolerances and set out the safeguards for officer decisions, in order to clarify roles and responsibilities and ensure visible Board member leadership.

   (b) The establishment of **portfolio working groups** would significantly improve member leadership and overview. These will ensure Board and Assembly members are involved earlier in the life-cycle of schemes, drawing on the energy and expertise of Assembly members to represent the views of local people, business and academia.

   (c) The working groups would play a role in strengthening the development of proposals. Pre-scrutiny would be further strengthened through a **longer interval between Assembly and Board meetings**, a **Joint Assembly work programme** developed according to clear guiding principles and **clearer reporting** of pre-scrutiny recommendations and Board decisions on them.

9. On the handling of interests, all Executive Board members have published their updated declarations of Interest and Executive Board and Joint Assembly members receive advice on induction on the applicable Code of Conduct and on conflicts of interest.

10. In parallel with and linked to the Governance work, the Greater Cambridge Partnership has been considering how to broaden and strengthen stakeholder engagement, so that advice to the Assembly and Board is informed by an understanding of the views of the Programme's diverse range of stakeholders. Following a Communications Review in late 2016, the Greater Cambridge Partnership has launched a new website, refreshed its brand, vision and mission, broadened its communications and is building communications capacity. The Review also identified that many affected parties, such as commuters and younger people, have not been reached by our consultations or other communications. The Greater Cambridge Partnership is working to build on our communications strategy, so that our communications function has a broad reach, maximises impact within agreed budgets and manages risks that advice is given and decisions taken without knowing the views of the 'silent majority'.

11. As part of this, work has been commissioned from The Consultation Institute, a respected body, to advise on and quality assure future consultations and to do a light-touch external assurance review on Local Liaison Forums. LLF Chairs and Board and Assembly members are participating in this review, which will be reported to the Assembly and Board in the Autumn. The LLFs act as a useful forum for community engagement on key transport infrastructure projects in the context of the broader stakeholder engagement strategy: one year from their inception, it is timely to review how the early introduction of these forums is working and how they might evolve in the light of governance changes and engagement plans. In the new governance arrangements, they are important communicators of the views of local communities to the transport portfolio holder and transport director.

12. Feedback from members of the public also supports the need for clearer leadership by members (which the portfolios and working groups would provide), for stronger scrutiny with more visible tracking (which the proposed reporting improvements and longer interval between Assembly and Board provide) and a better experience of public questions and petitions. The latter issue is being addressed via an improved public questions process and through better communication with questioners and petitioners. This is set out in appendix 6.

Options

13. The Governance package of portfolio leadership, working groups and strengthened pre-scrutiny addresses the identified weaknesses in existing governance arrangements whilst preserving its identified strengths, as set out above. In summary, its benefits are:

    (a) Ensures clear Board member leadership and clarifies roles and responsibilities for Board, Joint Assembly and their members, as well as officers;
    (b) Strengthens overview of the Programme and pre-scrutiny of decisions, makes it clearer how Joint Assembly advice has been used by the Executive Board, whilst maintaining separate pre-scrutiny of decisions;
    (c) Ensures Board and Assembly members are involved earlier in the life-cycle of schemes, drawing on the energy and expertise of Joint Assembly members to represent the views of local people, business and academia;
    (d) Is being supported by improved handling and use of public questions, strengthened stakeholder engagement strategy and LLF review.

14. It would not require changes to the Executive Board or Joint Assembly standing orders.

15. If agreed, most elements can be implemented in August/ September. The 3-week interval between Joint Assembly and Board meetings would be implemented as soon as practicable, and no later than January 2018. It is recommended that the effectiveness of the changes be reviewed, with a review commencing 12 months after implementation.

16. It is possible to envisage much more radical changes to the Greater Cambridge Partnership Governance arrangements, including significant changes to Board and/or Joint Assembly composition. More radical changes, particularly those that increase the size of the Executive Board, could make consensus difficult and/or diminish the role of business and academic partners.

17. Any changes to the composition of the Executive Board or Joint Assembly would require the three Local Authorities' agreement. It is clear that the Greater Cambridge

Partnership governance arrangements need to work better, which the recommended package would ensure. However, the combination of a small decision-making Board and a scrutiny committee is the model being used to govern other large Gainshare Infrastructure funds, because it ensures partnership decision-making that is efficient, as well as broader scrutiny. The proposed review could, however, look at alternative options.

18. In the light of the feedback from Board and Joint Assembly members, the Mouchel Report and public views, not changing the governance in any way (the 'do nothing' option) is not recommended.

Implications

19. 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

20. Financial governance was strengthened via the Medium Term Financial Strategy, agreed in November 2016. This included a decision that all new spending proposals needed a proportionate business case to be presented to the Executive Board ahead of decision. The proposals for the Working Groups aim to strengthen this further: their draft Terms of Reference state that part of their function is to provide challenge to ensure that developing proposals provide genuine additionality and value for money.

21. Officer time and input will be needed to support the working groups.

Legal

22. Legal advisers have been involved in the development of the Governance proposals and advised on them extensively, particularly the Scheme of Delegation and the Working Groups.

Staffing

23. Senior officer leads and the Central Programme Team will need to provide officer support for the working groups and the annual Joint Assembly work shop on the Work Programme. Democratic Services will implement the reporting changes.

Risk Management

24. The proposals improve the controls for several of the Greater Cambridge Partnership's strategic risks. They promote good decision-making and manages risks of delayed decision-making delaying the delivery of much-needed infrastructure. The informal Working Groups help manage risks around failing to invest the Partnership's monies where the greatest additional benefits could be expected.

Equality and Diversity

25. No significant implications.

Climate Change and Environmental

26. The Economy and Environment portfolio provides an opportunity to embed thinking about the environmental, as well as the economic growth, impacts of key strategies and projects across the programme.

Consultation responses and Communication

27. The Governance proposals in this paper have been developed in close consultation with Executive Board and Joint Assembly members and have been shaped by their input.

Links to relevant background

Greater Cambridge City Deal Agreement

https://www.gov.uk/government/publications/city-deals-greater-cambridge

Executive Board Standing Orders:

https://citydeal-live.storage.googleapis.com/upload/www.greatercambridge.org.uk/about-city-deal/GCCD%20Executive%20Board%20Terms%20of%20Reference%20-%20updated%20Dec%202016.pdf

Joint Assembly Standing Orders:

https://citydeal-live.storage.googleapis.com/upload/www.greatercambridge.org.uk/about-city-deal/GCCD%20Joint%20Assembly%20Terms%20of%20Reference%20-%20updated%20Dec%202016.pdf

Reports on delegations to Greater Cambridge Partnership (formerly City Deal)

Cambridge City Council:
http://democracy.cambridge.gov.uk/ieListDocuments.aspx?CId=116&MId=2494&Ver=4

Cambridgeshire County Council:
http://www2.cambridgeshire.gov.uk/CommitteeMinutes/Committees/AgendaItem.aspx?agendaItemID=10841

South Cambridgeshire District Council:
http://scambs.moderngov.co.uk/ieListDocuments.aspx?CId=410&MId=6284&Ver=4

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END OF REPORT

APPENDIX 1 - GREATER CAMBRIDGE PARTNERSHIP – PORTFOLIOS AND PORTFOLIO HOLDER RESPONSIBILITIES

Key principles and the portfolios

Decision-making is the collective responsibility of the Executive Board. Portfolio holders provide strategic leadership for their portfolios within this framework.

The proposed portfolios and the proposed portfolio holders for this municipal year are as follows. Figure 1, at the end of this appendix, summarises the portfolios and portfolio holder role.

1. **Housing and strategic planning: Cllr Lewis Herbert**

2. **Transport**: **Cllr Ian Bates**: This is a very significant part of the Greater Cambridge Partnership's Programme. Therefore commensurate officer support will be provided and the Portfolio holder will consult appropriately with Executive Board colleagues, particularly those who represent Cambridge and South Cambridgeshire on projects in those districts.

3. **Smart Places: Cllr Francis Burkitt**

4. **Skills: Mark Reeve**

5. **Economy and Environment: Phil Allmendinger**

The Chair of the Executive Board will provide leadership on finance, strategy, communications and governance, in addition to her/his portfolio lead. The Board members representing Cambridge City and South Cambridgeshire will represent those districts in their discussions with Board colleagues.

Allocation of portfolios

1. At the Annual Meeting, the Executive Board elects its Chair and will agree portfolio responsibilities. The presumption is that portfolios will be allocated based on the agreed organisational leadership for a particular portfolio and expertise.

2. The portfolio holders will act to further the objectives of the Greater Cambridge Partnership through their strategic leadership of their portfolio. The portfolio holders have a collective responsibility to the Greater Cambridge Partnership and for decision-making and individual responsibility for providing leadership in their respective policy areas.

3. This note sets out the generic responsibilities of the portfolio holders.

Project and Policy Development

4. Portfolio Holders will:

    - Work with the Interim Chief Executive, Senior Lead officer, officers working on behalf of the Greater Cambridge Partnership, along with other officers across the Partnership and subject matter experts to develop strategies, programmes and

projects

- Work with members of the Joint Assembly and the Senior Lead officer through the relevant Portfolio working group

- Work with and build relationships with other external partners and stakeholders to negotiate and build the best policy and delivery options and outcomes

- Provide political guidance to the Interim Chief Executive, Senior lead officer, external parties and other officers to ensure understanding of the priorities of the Greater Cambridge Partnership

- Liaise with Executive Board colleagues and political leaders as necessary to ensure collective responsibility for strategies, programmes and projects developed

- Proactively challenge all options to ensure the best option is recommended to the Greater Cambridge Partnership Board and make recommendations that meet the overall objectives of the Greater Cambridge Partnership, that represent value for money and ensure that the activity is genuinely additional.

- Appear before the Joint Assembly to present decision proposals, receive feedback and challenge and be held to account for progress

- Gauge the political and public acceptability of strategies, programmes and projects – ensuring there is strong engagement throughout the process of their development

- Communicate clear and achievable objectives.

Project Delivery

5. Portfolios Holders will:

    - Work with senior lead officers to oversee the delivery of programmes and projects ensuring that they are delivered on time, to budget and are on target to meet the agreed outputs and outcomes

    - Report delivery issues to the Executive Board chair and colleagues

    - Where targets are not being achieved, challenge those involved, identify blockages and raise as necessary with the senior lead officer, the Interim Chief Executive of the Greater Cambridge Partnership or relevant members or senior officers in the Greater Cambridge Partnership partner responsible for delivery.

Representative Role and Public Relations

6. Board members represent the Greater Cambridge Partnership in promoting its objectives, plans and projects. They will:

- Approve any press releases and undertake press interviews in connection with their portfolios (in consultation with the Chair of the Executive Board)

- Answer public questions related to their Portfolios at Greater Cambridge Partnership Executive Board meetings

- As Board members, represent the Greater Cambridge Partnership at their own constituent councils' council meetings and other bodies (for the avoidance of doubt, this is not confined to the Portfolio)

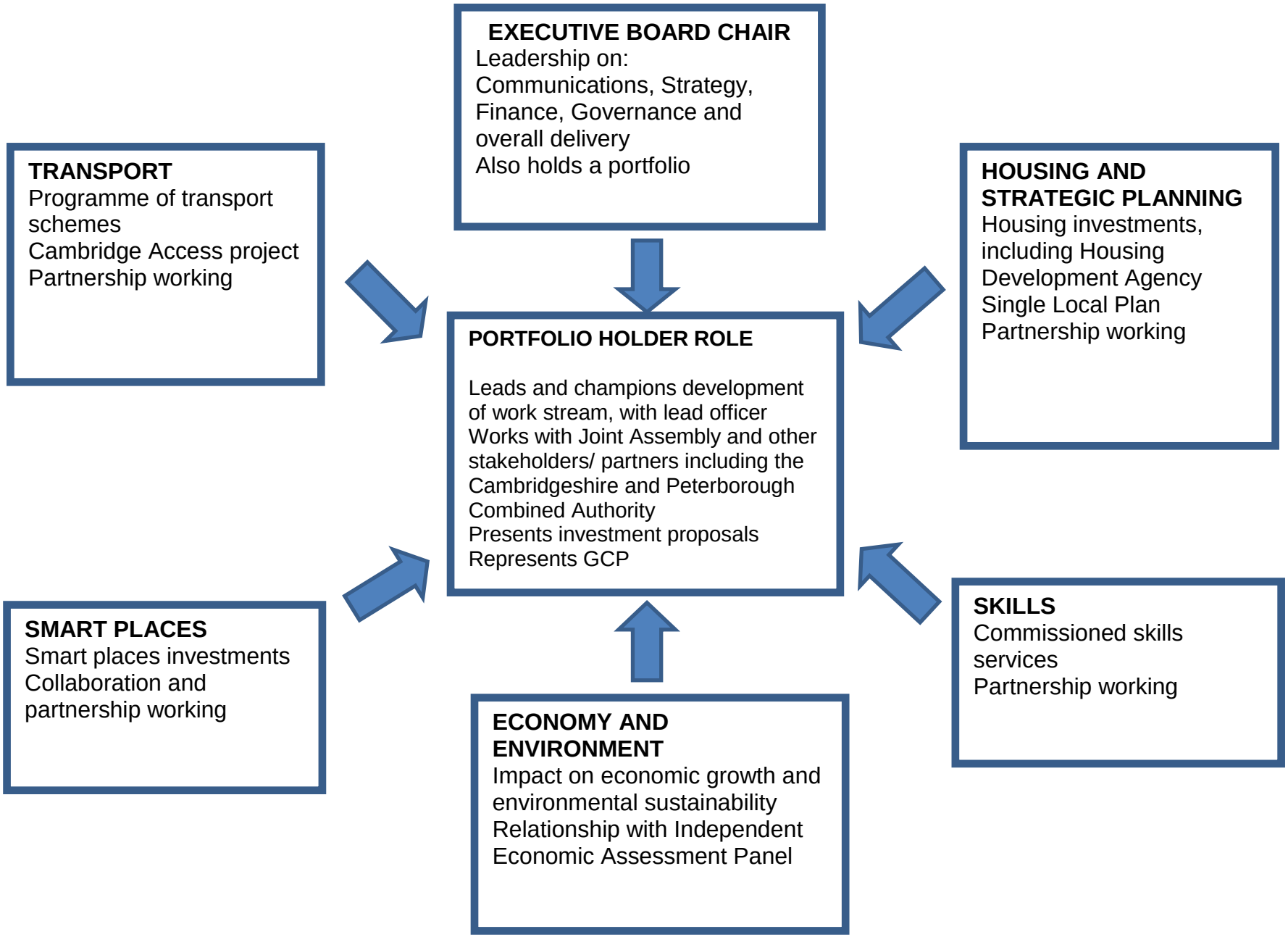
- Keep the Chair and other board members up to date on key issues

- Promote the Greater Cambridge Partnership's vision and explain this to the public and other external bodies

- Promote and defend Executive Board decisions to the media, their nominating Partner organisation and to other interested parties

- Manage the political interface between the Greater Cambridge Partnership and the Partner organisation that nominated them.

FIGURE 1: GREATER CAMBRIDGE PARTNERSHIP: PORTFOLIOS



APPENDIX 2 – WORKING GROUPS

1. This appendix explains the proposed Working Groups and sets out the Terms of Reference for each individual Working Group. The Working Groups are advisory, non-decision making groups appointed by the Executive Board. Each is chaired by the relevant portfolio holder and they aim to take forward the Board-Assembly collaboration that has been enhanced by the use of theme-specific groups.

2. The Joint Assembly agrees which of its members to nominate to the Working Groups, ensuring that where possible each: includes Councillors, business and academic representatives; brings in perspectives from Cambridge and South Cambridgeshire; and makes the most of individual Joint Assembly members' expertise. Each Joint Assembly member is asked to participate in at least one group, but no more than two, to spread the workload.

3. The five Working Groups are:
    a. Transport
    b. Housing and strategic planning
    c. Skills
    d. Innovation and Smart Cities
    e. Economy and Environment

4. Working Groups will provide an informal space to discuss initial ideas and options for Greater Cambridge Partnership schemes. They may offer advice to the relevant Portfolio Holder and officers on developing strategies, programmes and projects for that work stream which meet the objectives of the Greater Cambridge City Deal agreement and the strategies and other frameworks agreed by the Executive Board. They ensure Board and Assembly members are involved earlier in the life-cycle of schemes, drawing on the energy and expertise of Assembly members to represent the views of local people, business and academia. They may make recommendations to the Assembly and Board via Board reports but are not decision-making bodies.

5. In particular, Working Groups will provide input and challenge to ensure developing plans lead to activities and investments that are 'additional' to the activity of other public, private and voluntary sector actors and that proposals can be expected to provide good returns and/or value for money in line with assurance frameworks and the 'Gain share' deal.

6. Working Group meetings are not held in public, as they are informal meetings. In the interests of transparency, their membership and terms of reference will be published. They will not be formally minuted.

7. In March 2015, a Skills Working Group consisting of Executive Board and Joint Assembly members was set up to steer proposals for the GCP Skills Service, which was agreed in June 2015. The Working Group was retained as an Advisory Group, whose remit was to monitor the progress of the Service against its core purposes. Give the risk of duplication, it is proposed that the functions of this Skills Advisory group be incorporated into the new Skills Working Group and the Skills Advisory group would then no longer be needed.

The expertise of Advisory Group members would be of significant benefit to the Skills Working group going forward.

8. The working groups will generally meet 1-4 times per year, however, the collaborations involved in developing Smart Places work mean that working group will meet more frequently.

Working group: Transport	**Appointed by: Executive Board**

1. Purpose of the working group:

1.1 The Working Group has an advisory role for transport. Specifically the Working Group will act as a sounding board ahead of the decision-making process for developing strategies, programmes and projects that achieve the transport objectives set out in the Greater Cambridge City Deal document and any other relevant objectives and decisions of the Greater Cambridge Partnership's Executive Board. It will provide advice, expertise and challenge to the Portfolio Holder and Transport Director on the Greater Cambridge Partnership's major transport programmes and projects.

1.2 The aim of the Working Group's input, expertise and challenge is to:

1.2.1 Ensure that all proposals lead to investments and activities that are 'additional' to the activity of other public, private and voluntary sector actors

1.2.2 Ensure that proposals can be expected to provide good returns and/or value for money in line with assurance frameworks and the funding deal with Government

1.2.3 Ensure proposals are evidence-based including evidence of the views or likely views of key stakeholders.

Terms of Reference

2. Membership and composition

2.1 The Working Group's members are appointed annually by the Greater Cambridge Partnership's Executive Board.

2.2 The Working Group will be chaired by the Transport Portfolio Holder.

2.3 In addition to the Chair, the Working group will consist of no more than six members of the Joint Assembly, consisting of a mix of Councillors, Business and Academic representatives with relevant expertise and each will include at least one Councillor representing a ward/ division in Cambridge and in South Cambridgeshire.

2.4 The Working Group will be supported by the Greater Cambridge Partnership's Transport Director and other officers as needed.

3. Framework for discussions

3.1 Any agendas for working group meetings will be agreed between the Portfolio Holder and the Senior Lead officer.

3.2 In providing advice and input, the Working Group will have regard to the area's future needs for transport investment and how this can contribute to economic growth, whilst continuing to protect the environment and quality of life in Greater Cambridge.

3.3 The Framework within which the GCP takes its investment decisions is set by the GC City Deal agreement, associated agreements and the Assurance Framework, as well as relevant plans and strategies adopted by the constituent Councils. For Transport, these will include the Transport Strategy for Cambridge and South Cambridgeshire and the Cambridgeshire and Peterborough Combined Authority Transport plans. The Working Group will be fully mindful of this framework in providing its advice, and advice will be available to it on this framework and its impact.

4. Governance

4.1 The Working Group will meet at least twice per year, with increased frequency at the discretion of the Portfolio Holder and Transport Director.

4.2 The remit of the Working Group is set out above, as an advisory group on achieving the Greater Cambridge Partnership's agreed transport objectives. It shall operate within these Terms of Reference, which are agreed by the Greater Cambridge Partnership's Executive Board.

4.3 The Working Group does not meet in public and is not a decision-making body. It will publish any recommendations it make through reports to the Joint Assembly and Executive Board.

4.4 The Working Group meetings are not formal and will not be minuted. Key actions may be captured, at the discretion of the Senior Lead Officer and Portfolio Holder. The membership and Terms of Reference of this Working Group will be published.

5. Review

5.1 These terms of reference will be reviewed for relevance and to ensure they are fit for purpose, on an annual basis. Membership of the Working Group will also be reviewed annually, along with the impact and continued need for the Working Group.

Working group: Housing and Strategic Planning	**Appointed by: Executive Board**

1. Purpose of the working group:

1.1 The Working Group has an advisory role for housing and strategic planning. Specifically the Working Group will act as a sounding board for the Greater Cambridge Partnership's key Housing and Strategic Planning programmes and projects ahead of the decision-making process. It will provide advice, expertise and challenge to the Portfolio Holder and Senior lead officers.

1.2 The aim of the Working Group's input, expertise and challenge is to:

1.2.1 Ensure that all proposals lead to investments and activities that are 'additional' to the activity of other public, private and voluntary sector actors

1.2.2 Ensure that proposals can be expected to provide good returns and/or value for money in line with assurance frameworks and the funding deal with Government

1.2.3 Ensure proposals are evidence-based including evidence of the views or likely views of key stakeholders.

Terms of Reference

2. Membership and composition

2.1 The Working Group's members are appointed annually by the Greater Cambridge Partnership's Executive Board.

2.2 The Working Group will be chaired by the Housing and Strategic Planning Portfolio Holder.

2.3 In addition to the Chair, the Working group will consist of no more than six members of the Joint Assembly, consisting of a mix of Councillors, Business and Academic representatives with relevant expertise and each will include at least one Councillor representing a ward/ division in Cambridge and in South Cambridgeshire.

2.4 The Working Group will be supported by the Senior Lead Officer and other officers as needed.

3. Framework for discussions

3.1 Any agendas for working group meetings will be agreed between the Portfolio Holder and the Senior Lead officer.

3.2 In providing advice and input, the Working Group will have regard to the

area's future needs for housing and employment sites insofar as this is not being considered elsewhere and if there is a role for the partnership. It will consider how any proposals can contribute to economic growth, whilst continuing to protect the environment and quality of life in Greater Cambridge.

3.3 The Framework within which the GCP takes its investment decisions is set by the GC City Deal agreement, associated agreements and the Assurance Framework, as well as relevant plans and strategies adopted by the constituent Councils. For Housing and Strategic Planning, these will include the current and submitted Cambridge and South Cambridgeshire Local Plans. The Working Group will be fully mindful of this framework in providing its advice, and advice will be available to it on this framework and its impact.

4. Governance

4.1 The Working Group will meet at least twice per year, with increased frequency at the discretion of the Portfolio Holder and Senior Lead Officer.

4.2 The remit of the Working Group is set out above, as an advisory group on achieving the Greater Cambridge Partnership's agreed housing and strategic planning objectives. It shall operate within these Terms of Reference, which are agreed by the Greater Cambridge Partnership's Executive Board.

4.3 The Working Group does not meet in public and is not a decision-making body. It will publish any recommendations it make through reports to the Joint Assembly and Executive Board.

4.4 The Working Group meetings are not formal and will not be minuted. Key actions may be captured, at the discretion of the Senior Lead Officer and Portfolio Holder. The membership and Terms of Reference of this Working Group will be published.

5. Review

5.1 These terms of reference will be reviewed for relevance and to ensure they are fit for purpose, on an annual basis. Membership of the Working Group will also be reviewed annually, along with the impact and continued need for the Working Group.

Working group: Skills	**Appointed by: Executive Board**

1. Purpose of the working group:

   1.1. The Working Group has an advisory role for skills. Specifically the Group will act as a sounding board for developing and monitoring investments to deliver the skills commitments in the Greater Cambridge City Deal agreement and any other skills projects agreed by the Executive Board. It will provide advice, expertise and challenge to the Portfolio Holder and Senior lead officer.

   1.2. The aim of the Working Group's input, expertise and challenge is to:

      1.2.1. Ensure as far as possible that all proposals lead to activities and investments and activities that are 'additional' to the activity of other public, private and voluntary sector actors

      1.2.2. Ensure that proposals can be expected to provide good returns and/or value for money in line with assurance frameworks and the funding deal with Government

      1.2.3. Ensure proposals are evidence-based including evidence of the views or likely views of key stakeholders.

Terms of Reference

2. Membership and composition

   2.1. The Working Group's members are appointed annually by the Greater Cambridge Partnership's Executive Board.

   2.2. The Working Group will be chaired by the Skills Portfolio Holder.

   2.3. In addition to the Chair, the Working group will consist of no more than six members of the Joint Assembly, consisting of a mix of Councillors, Business and Academic representatives with relevant expertise and if possible will include at least one Councillor representing a ward/ division in Cambridge and in South Cambridgeshire.

   2.4. The Working Group will be supported by the Senior Lead Officer and other officers as needed.

3. Framework for discussions

   3.1. Any agendas for working group meetings will be agreed between the Portfolio Holder and the Senior Lead officer.

   3.2. In providing advice and input, the Working Group will have regard to the area's future needs, as well as the activities of other bodies working to improve lifelong learning and skills and how best to ensure the GCP's activities are genuinely additional to those other bodies'.

3.3. The Framework within which the GCP takes its investment decisions is set by the GC City Deal agreement, associated agreements and the Assurance Framework, as well as relevant plans and strategies adopted by the Greater Cambridge Partners. The Working Group will be fully mindful of this framework in providing its advice, and advice will be available to it on this framework and its impact.

3.4. The Group will also monitor the delivery of commissioned skills services against agreed performance frameworks, to ensure they are sufficient and effective to deliver the commitments in the City Deal Agreement between Government and the Greater Cambridge Partners and to assist with monitoring and evaluation.

4. Governance

4.1. The Working Group will meet at least twice per year, with increased frequency at the discretion of the Portfolio Holder and Senior Lead Officer.

4.2. The remit of the Working Group is set out above, as an advisory group on achieving the Greater Cambridge Partnership's agreed skills objectives, including the commitments in the Greater Cambridge City Deal Agreement. It shall operate within these Terms of Reference, which are agreed by the Greater Cambridge Partnership's Executive Board.

4.3. The Working Group does not meet in public and is not a decision-making body. It will publish any recommendations it make through reports to the Joint Assembly and Executive Board.

4.4. The Working Group meetings are not formal and will not be minuted. Key actions may be captured, at the discretion of the Senior Lead Officer and Portfolio Holder. The membership and Terms of Reference of this Working Group will be published.

5. <u>Review</u>

5.1. These terms of reference will be reviewed for relevance and to ensure they are fit for purpose, on an annual basis. Membership of the Working Group will also be reviewed annually, along with the impact and continued need for the Working Group.

Working group: Smart Places	**Appointed by: Executive Board**

1. Purpose of the working group:

1.1. The Working Group has an advisory role for Smart Places activity. Specifically the Working Group will act as a sounding board for the strategic direction of this work stream ahead of the decision-making process. It will provide advice, expertise and challenge to the Portfolio Holder and Senior lead officer.

1.2. The aim of the Working Group's input, expertise and challenge is to:

1.2.1. Ensure that as far as possible all proposals lead to activities and investments that are 'additional' to the activity of other public, private and voluntary sector actors

1.2.2. Ensure that proposals deliver the strategic objectives and can be expected to provide good long-term returns and/or value for money in line with assurance frameworks and the funding deal with Government

1.2.3. Ensure proposals are evidence-based including evidence of the views or likely views of key stakeholders.

Terms of Reference

2. Membership and composition

2.1. The Working Group's members are appointed annually by the Greater Cambridge Partnership's Executive Board.

2.2. The Working Group will be chaired by the Smart Cities Portfolio Holder.

2.3. The Working group will also consist of no more than six members of the Joint Assembly, consisting of a mix of Councillors, Business and Academic representatives with relevant expertise and if possible will include at least one Councillor representing a ward/ division in Cambridge and in South Cambridgeshire.

2.4. The Working Group will be supported by the Senior Lead Officer and other officers as needed.

3. Framework for discussions

3.1. In providing advice and input, the Working Group will have regard to future needs and potential for Smart Places collaboration and investment in Greater Cambridge insofar as this is not being considered by other public, private or voluntary sector organisations and/or partnerships and how this can contribute to economic growth, whilst protecting the environment and quality of life in Greater Cambridge.

4. Governance

4.1. The Working Group will meet as frequently as needed to support the strategy development and at least twice per year.

4.2. The remit of the Working Group is set out above, as an advisory group on achieving the Greater Cambridge Partnership's agreed smart cities objectives. It shall operate within these Terms of Reference, which are agreed by the Greater Cambridge Partnership's Executive Board.

4.3. The Working Group does not meet in public and is not a decision-making body. It will publish any recommendations it makes through reports to the Joint Assembly and Executive Board.

4.4. The Working Group meetings are not formal and will not be minuted. Key actions may be captured, at the discretion of the Senior Lead Officer and Portfolio Holder. The membership and Terms of Reference of this Working Group will be published.

5. Review

5.1. These terms of reference will be reviewed for relevance and to ensure they are fit for purpose, on an annual basis. Membership of the Working Group will also be reviewed annually, along with the impact and continued need for the Working Group.

Working group: Economy and Environment	Appointed by: Executive Board

1. Purpose of the working group

1.1. The Working Group provides support and challenge to ensure that the Greater Cambridge Partnership's programme of investments as a whole:

1.1.1. Can be expected to ensure additional economic growth in Greater Cambridge

1.1.2. Does so in a way which respects the environment and seeks opportunities to achieve environmental objectives, particularly around climate change, quality of place and air quality.

1.2. The Working Group may provide advice, expertise and challenge to the Portfolio Holder and Interim Chief Executive on the cross-cutting Economic and Environmental impacts of the GCP's Programme as a whole and on cross-cutting Economy and Environment projects where the Portfolio Holder has a lead role.

Terms of Reference

2. Membership and composition

2.1. The Working Group's members are appointed annually by the Greater Cambridge Partnership's Executive Board.

2.2. The Working Group will be chaired by the Economy and Environment Portfolio Holder.

2.3. In addition to the Portfolio Holder, the Working group will also consist of no more than six members of the Joint Assembly, consisting of a mix of Councillors, Business and Academic representatives with relevant expertise and if possible will include at least one Councillor representing a ward/ division in Cambridge and in South Cambridgeshire.

2.4. The Working Group will be supported by the Senior Lead Officer and other officers as needed.

3. Framework for discussions

3.1. Any agendas for working group meetings will be agreed between the Portfolio Holder and the Senior Lead officer.

3.2. The Framework within which the GCP takes its investment decisions is set by the GC City Deal agreement, associated agreements and the Assurance Framework, as well as relevant plans and strategies adopted by the Greater Cambridge Partners. The Working Group will be fully mindful of this framework in providing its advice, and advice will be available to it on key aspects of this framework and its impact.

4. Governance

4.1. The Working Group will meet at least once per year, with increased frequency at the discretion of the Portfolio Holder and Senior Lead Officer.

4.2. The remit of the Working Group is set out above, as an advisory group on the cross-cutting Economic and Environmental impacts of the Greater Cambridge Partnership's programme. It will publish any recommendations it makes through reports to the Joint Assembly and Executive Board.

4.3. The Working Group meetings are not formal and will not be minuted. Key actions may be captured, at the discretion of the Senior Lead Officer and Portfolio Holder. The membership and Terms of Reference of this Working Group will be published.

4.4. The Working Group meetings are not formal and will not be minuted. Key actions may be captured, at the discretion of the Senior Lead Officer and Portfolio Holder. The membership and Terms of Reference of this Working Group will be published.

5. Review

5.1. These terms of reference will be reviewed for relevance and to ensure they are fit for purpose, on an annual basis. Membership of the Working Group will also be reviewed annually, along with the impact and continued need for the Working Group.

APPENDIX 3: REPORTING CHANGES

This note briefly summarises how the reporting of Joint Assembly and Board meetings will be improved to show more clearly what issues have been raised by Joint Assembly scrutiny, what recommendations have been made and the Executive Board's decisions in respect of them.

- Democratic Services will report on the views, advice and recommendations of the Joint Assembly, to provide a formal record for the Executive Board. This change requires the interval between the Joint Assembly and the Board to be extended and will be implemented when that is agreed and implemented.

- Decision notices of the Executive Board will set the Board's decisions in the context of Joint Assembly recommendations and advice and will explain the reasons for agreeing, agreeing in a modified form or rejecting recommendations/ advice.

- The Executive Board minutes will include reference to those decisions

- Executive Board and Joint Assembly minutes will also include action logs, for review at the following meetings.

APPENDIX 4: PRINCIPLES FOR OFFICER DELEGATION AND INITIAL SCHEME OF DELEGATION

1. Each of the Greater Cambridge Partner Councils, the Cambridgeshire and Peterborough Combined Authority, and other local government bodies adopt some form of scheme of delegations to empower lead officers to deliver their work in an agile and appropriate manner, within the framework set by elected members. Roles and responsibilities could be further clarified and agile delivery enabled for the Greater Cambridge Partnership by adopting this Scheme of Delegation, which implements the following principles:

2. The purpose of delegations is to enable the Executive Board to 'task' officers with running day to day business, whilst ensuring this is done within a clear, strong framework of Executive Board oversight and accountability.

3. The Executive Board may delegate powers that the Local Authorities have delegated to it to officers. Where it does, it will require that officers exercising delegations do so in consultation with relevant Executive Board members, as set out in the scheme. These will typically include the Portfolio Holder and the Chair, as well as any relevant officers eg. the Chief Finance Officer.

4. Delegations shall 'mirror' those of the constituent Councils and the Cambridgeshire and Peterborough Combined Authority that are relevant to the work of the Greater Cambridge Partnership Executive Board, to ensure consistency.

General conditions for use of delegations

5. Any decisions under delegated powers will be reported to the Executive Board as soon as practicable after they are taken and the decisions and their rationale will be published as soon as possible.

6. The Chair of the Executive Board can require an officer not to exercise their delegated power in a particular case and, if so, a report will be taken to the next available meeting for consideration. Where an officer takes a decision under delegated authority on a matter which has significant policy, service or operational implications or is known to be politically sensitive, the officer shall first consult with the relevant Portfolio Holder before exercising the delegated powers.

7. When exercising functions delegated to them, officers must comply with:

   i) Any legal requirement or restriction.
   ii) The City Deal Agreement, the supporting Policy Framework and any other relevant plans and strategies approved by the Executive Board.
   iii) The relevant in-year budget.

iv) The Greater Cambridge Partnership's revenue and capital budgets, subject to any variation which is permitted by the Financial Regulations of Cambridgeshire County Council, in particular the Financial Procedure Rules.
v) The Code of Conduct of the Local Authority that employs the officer, for the avoidance of doubt, the Financial Regulations of Cambridgeshire County Council still apply.
vi) The requirements of the Openness of Local Government Bodies Regulations 2014 and any supporting guidance.
vii) All other relevant policies, procedures, protocols and provisions.

8. Officers in the exercise of their delegated functions may not:
   i) Make Key Decisions as defined in the Constitution of Cambridgeshire County Council unless it is specifically delegated to the officer.
   ii) Change or contravene policies or strategies approved by the Executive Board.
   iii) Create or approve new policies or strategies, in the absence of the specific delegated authority from the Executive Board to do so.
   iv) Take decisions to withdraw services, in the absence of specific delegated authority to do so.
   v) Take decisions to significantly modify services without consulting the Chair of the Executive Board and the relevant Portfolio Holder before exercising the delegated power.
   vi) Take decisions where the matter is reserved to the Executive Board, by law cannot be discharged by an officer, or where the Executive Board has agreed that the matter should be discharged otherwise than by an officer.

Scheme of Delegation

9. This scheme sets out the 'ongoing' delegations enabling four key officers of the Greater Cambridge Partnership to implement the decisions of the Executive Board and provide day to day management of the Greater Cambridge Partnership's business. The Executive Board may also agree 'one off' delegations for specific tasks, for example the proposed delegation to the Interim Chief Executive to sign off the Local Assessment Framework for the independent economic assessment.

1. Interim Chief Executive

10. The GCP officer structure is led by an interim Chief Executive. That individual is responsible for the oversight and ensuring delivery of the Executive Board's agreed Programme and acts as advisor to the Executive Board and Joint Assembly. The Interim Chief Executive has the following powers and functions, to enable her to oversee the day-to-day running of Greater Cambridge Partnership business on behalf of the Executive Board:

    i) Coordinating the Greater Cambridge Partnership's functions, including holding officers to account for performance and delivery.

ii) Organising and ensuring the proper management of Greater Cambridge Partnership -funded staff, including proposing changes to the management structure and the number and grades of staff required in the directly-managed Greater Cambridge Partnership structure, and for the appointment of staff fully-funded by Greater Cambridge Partnership funds.

iii) Providing a policy advice service in relation to the programme and, in particular, to advise on the Greater Cambridge Partnership's plans and strategies.

iv) Placing items of business on agendas for formal Greater Cambridge Partnership Member meetings.

v) Responding to any Government consultation on behalf of the Greater Cambridge Partnership, subject to consultation with the Chair of the Executive Board and the relevant Portfolio Holder.

vi) Coordinating public relations for the Greater Cambridge Partnership, including the approval of press releases, having consulted where necessary the Chair of the Executive Board and the relevant Portfolio Holder.

vii) Authorising another officer to act in his/her place on any matter within his/her authority

viii) Discharging any function of the Greater Cambridge Partnership which:

a. Has not been specifically delegated to another officer, Committee or reserved to the Executive Board; and/or

b. Has been delegated to another officer where that officer is absent or otherwise unable to act (excluding the functions of the Greater Cambridge Partnership Solicitor and Chief Finance Officer).

ix) Taking any action which is required as a matter of urgency in consultation (where practicable) with the Chair of the Executive Board, the relevant Portfolio Holder, the Monitoring Officer and the Chief Finance Officer.

2. Chief Finance officer

11. The Greater Cambridge Partnership also has a nominated Chief Finance Officer role. Due to Cambridgeshire County Council's responsibility as 'Accountable Body' for the Greater Cambridge Partnership, this is fulfilled by Cambridgeshire County Council's Chief Finance Officer.

12. With that in mind, authority is delegated to the Chief Finance Officer to give effect to Executive Board decisions and ensure effective management of the Partnership's funds in accordance with:
    - Relevant provisions in Cambridgeshire County Council's Scheme of Delegation
    - The Financial Procedure Rules of Cambridgeshire County Council.

3. The Greater Cambridge Partnership Solicitor

13. The Greater Cambridge Partnership is not a Council, therefore does not have a statutory monitoring officer. The Monitoring Officer for Cambridgeshire County Council is designated Solicitor to the Greater Cambridge Partnership, as

Cambridgeshire County Council is the Accountable Body for the Greater Cambridge Partnership. The Greater Cambridge Partnership solicitor provides advice to the Executive Board and Joint Assembly on the scope of powers, authority to take decisions and on legal matters.

14. The Executive Board authorises the Greater Cambridge Partnership Solicitor to take the steps necessary to give effect to its decisions, to defend its interests, to advise on legal compliance and to defend any legal proceedings related to those decisions, in consultation with the Executive Board Chair and the relevant Portfolio Holder. For the avoidance of doubt, this includes the authority to deal with and determine exemptions under section 36 of the Freedom of Information Act 2000.

4. Transport Director

15. The Greater Cambridge Partnership transport programme is led by a Transport Director, who is empowered to exercise the following delegated functions in relation to Greater Cambridge Partnership infrastructure schemes[1]. These delegations mirror those that Cambridgeshire County Council has made to senior transport officers in respect of its transport schemes:

i) Publishing any draft order for traffic management and speed limit matters to implement Executive Board decisions]and, if there are no objections, to approve the making of the order.
ii) Determining objections associated with minor Traffic Regulation Orders and Side Roads Orders, in conjunction with the appropriate Local Members.
iii) Taking all operational decisions necessary to secure the provision of services and/or discharge of statutory functions in relation to delivery of agreed Greater Cambridge Partnership infrastructure schemes, including the power to enter into contracts, in accordance with the approved policies and Financial Procedure Rules of Cambridgeshire County Council and in consultation with the Greater Cambridge Partnership Solicitor.

The following Table summarises the Scheme of Delegation:

[1] The three partner Councils agreed when delegating functions to the City Deal Executive Board that a "City Deal infrastructure scheme" is defined as "…one arising from the Greater Cambridge City Deal which has all of the following characteristics:

i. Has been and remains designated by the Greater Cambridge City Deal Executive Board as a City Deal infrastructure scheme.
ii. Is, or has been funded in whole or in part by funds received by the County Council under the auspices of the Greater Cambridge City Deal or allocated to the Greater Cambridge City Deal Executive Board by participating authorities."

Summary table of delegated authority:

Delegation from Executive Board	Delegation to officer	Conditions
Coordinating the Greater Cambridge partnership's functions, including holding officers to account for performance and delivery.	Interim Chief Executive	In accordance with the general conditions.
Organising and ensuring the proper management of Greater Cambridge Partnership -funded staff, including proposing changes to the management structure and the number and grades of staff required in the directly-managed Greater Cambridge Partnership structure, and for the appointment of staff fully-funded by Greater Cambridge Partnership funds.	Interim Chief Executive	In accordance with the general conditions.
Providing a policy advice service in relation to the programme and, in particular, to advise on the Greater Cambridge Partnership's plans and strategies.	Interim Chief Executive	In accordance with the general conditions.
Placing items of business on agendas for formal Greater Cambridge Partnership Member meetings.	Interim Chief Executive	In accordance with the general conditions.
Responding to any Government consultation on behalf of the Greater Cambridge Partnership.	Interim Chief Executive	In accordance with the general conditions and subject to consultation with the Chair of the Executive Board and the relevant Portfolio Holder.
Coordinating public relations for the Greater Cambridge Partnership, including the approval of press releases.	Interim Chief Executive	In accordance with the general conditions and in consultation where necessary with the Chair of the Executive Board and

		the relevant Portfolio Holder.
Authorising another officer to act in his/her place on any matter within his/her authority	Interim Chief Executive	In accordance with the general conditions.
Discharging any function of the Greater Cambridge Partnership which: a. Has not been specifically delegated to another officer, Committee or reserved to the Executive Board; and/or b. Has been delegated to another officer where that officer is absent or otherwise unable to act (excluding the functions of the Greater Cambridge Partnership Solicitor and Chief Finance Officer).	Interim Chief Executive	In accordance with the general conditions.
Taking any action which is required as a matter of urgency.	Interim Chief Executive	In accordance with the general conditions and in consultation (where practicable) with the Chair of the Executive Board, the relevant Portfolio Holder, the Monitoring Officer and the Chief Finance Officer.
Officer to give effect to Executive Board decisions and ensure effective management of the Partnership's funds	Chief Finance officer	In accordance with the general conditions and: Relevant provisions in Cambridgeshire County Council's Scheme of Delegation. The Financial Procedure Rules of Cambridgeshire County Council
Authority to take the steps necessary to give effect to the Executive Boards decisions, to defend its interests, to	Greater Cambridge Partnership	In accordance with the general conditions and in consultation with the

advise on legal compliance and to defend any legal proceedings related to those decisions. For the avoidance of doubt, this includes the authority to deal with and determine exemptions under section 36 of the Freedom of Information Act 2000.	solicitor	Executive Board Chair and the relevant Portfolio Holder
Publishing any draft order for traffic management and speed limit matters to implement Executive Board decisions and, if there are no objections, to approve the making of the order.	Transport Director	In accordance with the general conditions.
Determining objections associated with minor Traffic Regulation Orders and Side Roads Orders.	Transport Director	In accordance with the general conditions and in conjunction with the appropriate Local Members (District and County)
Taking all operational decisions necessary to secure the provision of services and/or discharge of statutory functions in relation to delivery of agreed Greater Cambridge Partnership infrastructure schemes, including the power to enter into contracts.	Transport Director	In accordance with the general conditions and in accordance with the approved policies and Financial Procedure Rules of Cambridgeshire County Council and in consultation with the Greater Cambridge Partnership Solicitor.

APPENDIX 5 – GUIDING PRINCIPLES FOR SETTING THE JOINT ASSEMBLY WORK PROGRAMME

1. The Joint Assembly work programme is set annually via a Joint Assembly workshop.

2. The work programme supports the achievement of the Greater Cambridge Partnership programme aims, its agreed projects and strategies and ensures the Joint Assembly's activity is focused on the work of the Executive Board.

3. The work programme should be capable of evolving to reflect changes in the Board's forward plan.

4. Reports going to the Board will be made available to the Joint Assembly. The Joint Assembly's work programme will largely consist of pre-scrutinising reports to the Executive Board ahead of decision making.

5. The Joint Assembly may focus its pre-scrutiny activities, for example on strategy, resource allocation and key decisions – it is not required to pre-scrutinise every report that goes to the Executive Board.

6. The work programme and the efforts of the Joint Assembly and Executive Board should to be focused on strategies and projects with demonstrable additionality and clear impact.

7. Where the Joint Assembly envisages activities with resource implications, senior officers will advise on the potential additionality benefits, as well as resource impacts. The Executive Board would need to agree any increased resource.

8. The Executive Board sets priorities, takes decisions on new projects, investments and resource allocation and does so based on a business case.

APPENDIX 6 – PUBLIC QUESTIONS AND PETITIONS AT JOINT ASSEMBLY AND EXECUTIVE BOARD MEETINGS

1. Members of the public are welcome to attend Joint Assembly and the Executive Board meetings. Both Committees take public questions, at the discretion of the Chair Person.

2. The deadline for sending public questions is 10am three working days before the public meeting.

3. Questions should be sent to the Democratic Services team at South Cambridgeshire District Council via Democratic.Services@scambs.gov.uk who will log the question.

4. Questioners are asked to limit their questions to no more than 300 words so as to maximise the use of time in the public meeting.

5. For a question to be asked in one of the above public meetings, it is suggested that they relate to an agenda item. Papers are published 8 working days in advance of the meeting to enable everyone to publicly see the agenda items to see if they have a question which relates to those.

6. Papers can be found on the South Cambridgeshire District Council website and there are specific Joint Assembly and Executive Board areas. Links are:
7. July Joint Assembly
8. July Executive Board

9. Any questions identified by the chair which are felt to not relate to agenda items will not be answered in the meeting but will be dealt with by the Greater Cambridge Partnership communications team so that an answer is provided. This is to maximise the use of time. If a question relates to an item on a future meeting agenda, we may suggest you table your question for that meeting.

10. The Chair Person will review all questions and make decisions about which questions are answered at the meeting and which questions will be forwarded for a separate answer. She/he does have the discretion to allow questions to be asked on issues not on the agenda that are within the remit of the Greater Cambridge Partnership, but will be mindful of the available time when considering which questions to take in the meeting.

11. At the meeting, questioners are asked to speak for no more than three minutes, and the question is also to be answered within the same timescale of three minutes. However, if there are a large number of public questions received, please note that the Chair Person may decide to give only 1 minute per questioner

12. There are likely to be questions of a similar nature. Where and if possible, we invite questioners to come together to ask questions that closely resemble each other if that is possible. If this is the case questions can be submitted in more than one part so as to include all aspects of one or two questioner's questions, but we request that the question still tries to remain within the 300 word limit.

13. Where similar questions are submitted individually, there are requirements in the public questions standing orders that state that a spokesperson should be nominated to ask a question and if that is not possible, the first person to table the question would act as spokesperson. However, in reality we understand that it is not always possible to agree a spokesperson. In this instance we would try to give everyone a chance to ask their question, but to ensure that everyone gets a chance to ask their question and for the Assembly or Board to give full consideration to everyone's views, we would ask that questioners just ask the succinct aspect of the question and not take up the full 3 minutes. Of course, Chair person's discretion applies.

14. The list of questions that have been submitted will be available at least 24 hours in advance of the public meeting with copies of the questions also available in paper format for members of the public attending the meeting.

15. Questions about a matter on the meeting agenda will generally be taken as part of that item, so they can be discussed at the appropriate time. Where possible, we will give you advance notice of where in the meeting proceedings you will be invited to ask your question.

16. If you have submitted a question, the Chair Person has ruled it in and you are not then able to attend the Assembly or Board meeting, your question will be answered by e-mail.

17. After each public meeting a running public questions log is published which shows what happened to each question submitted. For example whether it was answered in the public meeting or whether it was sent to the Greater Cambridge Partnership communications team for a response. This is to ensure transparency around all public questions submitted.

Petitions

18. Members of the public may submit and present petitions to the Joint Assembly, at the discretion of the Chair Person. Petitions with more than 500 signatures will normally be considered by the Joint Assembly and members are informed about any with more than 50 signatures. Petitions must be received by South Cambridgeshire District Council's Democratic Services team at least 5 working days before the Joint Assembly meeting you would like to present it at.

19. Please make it clear on your petition what your concerns are and what you would like the Joint Assembly to do. The Joint Assembly can only consider petitions relating to something the Joint Assembly has responsibility for, or over which it has some control.

20. Any matters from the discussion of petitions by the Joint Assembly can be referred to the Executive Board through the report to the Executive Board.

21. We may get in touch with you to ask whether you would be willing to defer your petition to the next meeting when the issue/ decision it relates to is being debated, so that it can be considered as part of the Joint Assembly's pre-scrutiny of

relevant decisions or issues. If there are two or more petitions on the same matter, the Chair may ask that the petitioners nominate a spokesperson if that is possible.

The Executive Board and Joint Assembly Standing Orders set the framework for questions and petitions. Links:

Executive Board Standing Orders:

https://citydeal-live.storage.googleapis.com/upload/www.greatercambridge.org.uk/about-city-deal/GCCD%20Executive%20Board%20Terms%20of%20Reference%20-%20updated%20Dec%202016.pdf

Joint Assembly Standing Orders:

https://citydeal-live.storage.googleapis.com/upload/www.greatercambridge.org.uk/about-city-deal/GCCD%20Joint%20Assembly%20Terms%20of%20Reference%20-%20updated%20Dec%202016.pdf

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