

23 September 2015

**To: Members of the Greater Cambridge City Deal Executive Board:**

Councillor Lewis Herbert	Cambridge City Council (Chairman)
Councillor Ray Manning	South Cambridgeshire District Council (Vice-Chairman)
John Bridge	Cambridge Chambers of Commerce
Councillor Steve Count	Cambridgeshire County Council
Professor Jeremy Sanders	University of Cambridge

Dear Sir / Madam

You are invited to attend the next meeting of the **GREATER CAMBRIDGE CITY DEAL EXECUTIVE BOARD**, which will be held in **THE GUILDHALL, CAMBRIDGE** on **THURSDAY, 1 OCTOBER 2015** at **2.00 p.m.**

AGENDA		PAGES
1.	<b>Apologies for absence</b> To receive any apologies for absence.	
2.	<b>Minutes of the previous meeting</b> To confirm the minutes of the previous meeting held on 4 August 2015 as a correct record.	1 - 8
3.	<b>Declarations of interest</b> To receive any declarations of interest from Members of the Executive Board.	
4.	<b>Public questions</b> To receive any questions from members of the public. The standard protocol to be observed by public speakers is attached.	9 - 10
5.	<b>Reports and recommendations from the Joint Assembly</b> Councillor Tim Bick, Chairman of the Joint Assembly, will be in attendance to present the recommendations from the meeting of the Assembly held on 16 September 2015.	11 - 14
6.	<b>M11 bus-only slip-roads feasibility report</b> To consider the attached report by Graham Hughes, Executive Director (Cambridgeshire County Council).	15 - 72
7.	<b>Greater Cambridge City Deal financial monitoring</b> To consider the attached report by Chris Malyon, Chief Finance Officer (Cambridgeshire County Council).	73 - 80

- 8. Greater Cambridge City Deal workstream update** **81 - 82**  
To consider the attached update report from each of the Greater Cambridge City Deal workstreams.

- 9. Greater Cambridge City Deal Forward Plan and schedule of meetings** **83 - 90**  
To consider the attached Greater Cambridge City Deal Executive Board Forward Plan. Future meetings of the Board are scheduled to be held as follows:

3 November 2015 – 2pm  
3 December 2015 – 2pm  
15 January 2016 – 2pm  
3 March 2016 – 2pm  
8 April 2016 – 2pm  
16 June 2016 – 2pm  
22 July 2016 – 2pm  
8 September 2016 – 2pm  
13 October 2016 – 2pm  
17 November 2016 – 2pm  
15 December 2016 – 2pm

# Agenda Item 2



## GREATER CAMBRIDGE CITY DEAL EXECUTIVE BOARD

Minutes of the Greater Cambridge City Deal Executive Board held on  
Tuesday, 4 August 2015 at 2.00 p.m.

### PRESENT:

#### Members of the Greater Cambridge City Deal Executive Board:

Councillor Lewis Herbert	Cambridge City Council (Chairman)
Councillor Ray Manning	South Cambridgeshire District Council (Vice-Chairman)
John Bridge	Cambridge Chamber of Commerce
Councillor Steve Count	Cambridgeshire County Council
Professor Jeremy Sanders	University of Cambridge

#### Members of the Greater Cambridge City Deal Joint Assembly and Executive Board substitutes in attendance

Councillor Dave Baigent	Cambridge City Council
Councillor Kevin Price	Cambridge City Council
Councillor Roger Hickford	Cambridgeshire County Council

#### Officers/advisors

Antoinette Jackson	Cambridge City Council
Andrew Limb	Cambridge City Council
Graham Hughes	Cambridgeshire County Council
Mark Lloyd	Cambridgeshire County Council
Chris Malyon	Cambridgeshire County Council
Claire Rankin	Cambridgeshire County Council
Noelle Godfrey	Connecting Cambridgeshire Partnership
Aaron Blowers	Greater Cambridge City Deal Partnership
Tanya Sheridan	Greater Cambridge City Deal Partnership
Adrian Cannard	Greater Cambridge Greater Peterborough Enterprise Partnership
Alex Colyer	South Cambridgeshire District Council
Graham Watts	South Cambridgeshire District Council

### 1. APOLOGIES FOR ABSENCE

An apology for absence was received from Councillor Tim Bick, Chairman of the Greater Cambridge City Deal Joint Assembly.

### 2. MINUTES OF THE PREVIOUS MEETING

The minutes of the previous meeting held on 18 June 2015 were confirmed and signed by the Chairman as a correct record.

### **3. DECLARATIONS OF INTEREST**

No declarations of interest were made.

### **4. PUBLIC QUESTIONS**

Questions asked or statements made, together with an responses from Members of the Executive Board or officers, were noted as follows:

#### **Statement by Edward Leigh**

Mr Leigh spoke about a bigger vision for transport in Greater Cambridge and acknowledged the Board's desire to get more people onto public transport, which he stated was a big challenge for practical, social and financial reasons.

He felt that Park and Ride sites were needed on all arterial routes into the City, making them easily accessible to as many people as possible and minimising the need to travel on the M11 or the A14 to reach one. Mr Leigh believed that there was a strong case for eight or nine new sites, which could be complemented by a network of cycle-and-ride hubs in the villages and outskirts of the City and bus-and-cycle hubs within the City. He was of the opinion that this would take some pressure off roads, but would not solve the problem. He added that Park and Ride sites had shown to abstract users from regular bus services, making those less financially viable and leading to a reduction in rural services with more people having to drive to Park and Ride sites. He made the point that some people did not have their own vehicles and said that there was a real danger that the poorest people living in rural communities could be cut off from the City.

Mr Leigh proposed a solution known as 'gating' or queue relocation, whereby vehicles were held at points outside of the City where there was space to increase road capacity. Traffic lights, connected to queue detectors in the roads ahead, could release cars only as fast as they could move freely and a bypass lane could be introduced to allow access for emergency vehicles, buses and other classes of road users to skip the queues. He had identified a possible sixteen locations where roads would need to be gated, mostly close to Park and Ride sites. These measures, in terms of building more Park and Ride sites and introducing gating, he felt, were affordable within the City Deal programme.

Mr Leigh explained that he was working with a small group of people, currently resourced by the Cycling Campaign, to expand this vision for enabling everyone to use the most convenient and appropriate combination of driving, public transport, cycling and walking to get around Greater Cambridge. He welcomed the opportunity to discuss how this could be developed further.

Councillor Lewis Herbert, Chairman of the Executive Board, informed Mr Leigh that he and representatives of the Executive Board would welcome a discussion around these proposals ahead of a report on city centre congestion scheduled for consideration by the Board later in the year. He agreed that more investment in Park and Ride facilities was needed and recognised the significance of tackling congestion as part of City Deal investment.

#### **Question by Jim Chisholm**

Mr Chisholm referred to the support that had been received for the proposed Chisholm Trail route at the meeting of the Joint Assembly held in July, but understood some of the concerns that had been highlighted by objectors at that meeting. He made reference to a revised proposal for the route that had very recently been published and included some

changes to reflect discussions that had subsequently taken place. He said that everyone needed to work and communicate better together to ensure that any main differences were resolved before a more definite route went before public consultation in the Autumn. Mr Chisholm added that the completed route should give many who currently drove, from Milton to Addenbrookes or Trumpington to the Science Park for example, a more pleasant and healthy option by cycling and also contribute to reduced congestion within Cambridge.

Mr Chisholm said that there was a lack of good evidence about the mode changes that occurred when good facilities for cycling were constructed. He felt that 'before and after' studies were needed, not just solely counts of cycles, and asked whether that would happen.

He also said that the improved access for both cycling and walking on the east side of the railway would give much added value to an eastern entrance for the main railway station. Hills Road should then have reduced congestion and there would be added benefits for the Chisholm Trail. He asked whether this would happen.

Graham Hughes, Executive Director of Economy, Transport and Environment at Cambridgeshire County Council, informed Mr Chisholm that pre and post impact analysis and studies of the Trail would be undertaken to quantify the benefits, which was standard practice for major transport schemes.

The latter question related to a proposal by Network Rail that had been considered in 2010/11 which consisted of an extension to the existing overbridge with an entrance to the eastern side. Mr Chisholm felt that this would be an easy way to achieve a reduction in congestion.

Mr Hughes felt that there were broader issues that needed to be considered as part of this matter, notwithstanding consulting with Network Rail and taking into consideration the planning issues for that area. He added, however, that this was something that did have potential and could be explored further.

Councillor Herbert, as local City Councillor for that specific area, highlighted that there were issues at both ends of the proposed Trail that needed to be considered, specifically in terms of how the Trail connected with other routes and cycling linkages.

### **Statement by Chris Blencowe**

Mr Blencowe spoke as a Trustee of Cambridge Past, Present and Future and reiterated its support for the Chisolm Trail. He also welcomed the proposal that the Leper Chapel should become a focus for the Trail and appreciated that the Trail would improve the visibility and accessibility of the Chapel. Furthermore, Cambridge Past, Present and the Future supported the plans for a café and public car park on the southern side of Newmarket Road.

Mr Blencowe reported that representatives from Cambridge Past, Present and Future had met with the consultant who had agreed that the part of the original preferred route that would have seen the underpass opening directly in front of the Chapel was unacceptable and should be withdrawn from further consideration. An alternative plan had been submitted to the County Council that moved the underpass further to the East along Newmarket Road, which he said was a significant and much welcomed improvement.

Cambridge Past, Present and Future felt it would be more acceptable if the underpass was located towards Coldham's Brook so that there was less impact on the Chapel. Mr Blencowe reported, however, that Cambridge Past, Present and Future had been told that

it was not possible to locate the route any closer to the Brook than the location proposed in the newly submitted plan, for drainage reasons. He disputed this and referred to subways constructed below the ground water table that did not flood elsewhere in Cambridge and in other countries such as Holland. He felt that this was more a matter of cost than of engineering, which he then said raised the question of how much it was worth to protect the setting of Cambridge's oldest entire building.

Mr Blencowe closed by reporting that Cambridge Past, Present and Future was working with the County Council to carry out both a heritage survey of the Chapel curtilage and an ecological survey of the Chapel Meadows. He said that until this information was available it would not be possible for his organisation to take a final position on the optimal route and urged the City Deal Executive Board to do the same.

Councillor Herbert was pleased that progress had been made since the meeting of the Joint Assembly on 15 July 2015 and stated that it was proposed to consult on the revised route, although options would be kept open.

Mr Hughes said that progress had been made following very useful conversations with representatives of Cambridge Past, Present and Future. Picking up the point about cost and engineering, he highlighted that there always had to be a balance between the two. He was keen to continue discussions with Cambridge Past, Present and Future as part of the consultation process in order to reach agreement on a proposal that suited everyone.

#### **Statement by Roxanne De Beaux**

Ms De Beaux spoke on behalf of the Cambridge Cycling Campaign and expressed the Campaign's support for the proposed consultation for the cross-city cycle routes and the Chisholm Trail.

She said that improving infrastructure for people to cycle into and around Cambridge would have numerous benefits at an individual, community and business level. Ms De Beaux added that cross-city cycle routes were just one part of making a transport system that could support growth and the Campaign looked forward to seeing the details of these plans and working with the Councils and their consultants to ensure the improvements could best meet the needs of cyclists and other road users.

Ms De Beaux said that the Campaign strongly believed that the focus of cycling investment in the coming years must be on improving the radial routes in Cambridge and the inner ring road, which were extremely poor for cycling. Areas like Newmarket Road desperately needed a complete redesign and the Campaign would like the City Deal to be more ambitious in proposing improvements in Cambridge in the coming years.

She also urged the City Deal Executive Board to apply further consideration to the roundabout at Fen Causeway to Lensfield Road and consider more ambitious and effective solutions for one of the worst intersections in Cambridge. In addition, Ms De Beaux urged the Board to be bold in its plans so that the infrastructure of Cambridge could be as world leading as the technology and discoveries the City was known for. She highlighted that the Cycling Campaign and other groups were working together to make suggestions about how this could be achieved, which it was hoped could be shared with the Board in the coming months.

Councillor Herbert welcomed the support of the Cambridge Cycling Campaign and what he perceived as being significant common agreement over the schemes proposed. He was also pleased to hear that further work would continue to be undertaken to suggest further improvements.

Councillor Herbert explained that, had the £500 million of Greater Cambridge City Deal funding been delivered in one tranche, it would have been possible to produce a deliverable programme for significantly improving Newmarket Road. However, the phased way in which funding would be allocated by the Government for the City Deal meant that further tranches of funding would only be provided upon delivery of prescribed objectives for specific schemes and that Newmarket Road would be considered for investment in future tranches. He emphasised that other City Deal projects, such as the city centre congestion project, and those in respect of radial routes would provide further opportunities to consider how Newmarket Road could be improved.

#### **Question by Sophie Hyde**

Mrs Hyde asked whether the Executive Board was happy with the route of the Chisholm Trail at the point where it crossed the river. In particular, she asked whether the damage to green space was justified, whether mitigations had been costed, whether the current modelling was accurate, whether this was a crossing point as opposed to an upgrade of existing infrastructure and whether this was a good use of public money.

Mrs Hyde was also concerned that the route could be used by motorised vehicles.

Mr Hughes explained that this was a relatively early stage of the process and a lot of the issues raised as part of the question could be fed in as part of the consultation exercise. He emphasised that there was no final scheme at this stage and that this would be worked up after the consultation process had concluded.

Councillor Herbert made it clear that there was no intention for this proposed Trail to be used by motorised vehicles.

### **5. REPORTS AND RECOMMENDATIONS FROM THE JOINT ASSEMBLY**

Councillor Roger Hickford, Vice-Chairman of the Joint Assembly, reported that the Assembly had met on 15 July 2015. He presented a report and recommendations from the Joint Assembly for each respective item on the agenda for this meeting, which it was agreed he would present at the relevant point of the meeting.

### **6. CHISHOLM TRAIL CYCLE LINKS**

Consideration was given to a report which provided the Executive Board with an opportunity to consider whether to commence with public consultation in respect of a proposed route option for the Chisholm Trail.

Councillor Roger Hickford, Vice-Chairman of the Joint Assembly, provided the Board with a report following consideration of this issue at the meeting of the Assembly held on 15 July 2015. He said that progress made with Cambridge Past, Present and Future since that meeting was extremely encouraging. The Assembly had recommended a slight amendment to the recommendation contained within the report, to make it clear that the route had not already been agreed and that it was out for public consultation.

Graham Hughes, Executive Director of Economy, Transport and Environment at Cambridgeshire County Council, presented the report and explained that the Chisholm Trail had been included as a City Deal transport scheme due to the range of benefits it could deliver, which included:

- being a safer, direct and more convenient largely off-road route for cycling and walking;



- providing improved access to green spaces, employment areas, retail sites and residential centres;
- providing links into a network of existing cycle routes;
- ensuring a minimal impact on motor traffic journey times;
- enhancing the environment, streetscape and air quality;
- creating more capacity for sustainable trips along the rail corridor;
- links to strategic priorities for City Deal cross-city cycle improvements.

Further to the public questions received earlier at this meeting, Mr Hughes confirmed that discussions would continue with Cambridge Past, Present and Future to seek to address the issues raised and agree an amicable way forward.

The following points were noted following discussion by Members of the Executive Board:

- going ahead with the consultation was the right thing to do and any comments, such as those received as part of public questions or statements at this meeting, could be submitted and fed into that process. This would then inform further consideration of the final route for the Trail;
- one of the public questions received earlier at the meeting suggested delaying the consultation until surveys at the Leper Chapel had been undertaken. This was not a realistic option as the scheme had to be delivered in accordance with strict deadlines in order to secure further City Deal funding from subsequent tranches. Officers reported their understanding that the ecology survey had already been received;
- a report on the findings of the consultation would be reported back to the Board in January or February 2016;
- there may be some elements of the Trail's programme that could be accelerated ahead of the proposed timetable for delivery. Officers agreed to look at this in further detail, highlighting and mitigating any risks associated with doing so, including the risk of abortive work;
- one of the key risks from a programme delivery perspective was how long it could sometimes take for decisions to be made on specific issues by Network Rail, especially in respect of land ownership;
- most landowners potentially affected by the proposed Trail had already been contacted and made aware of the proposal.

The Executive Board unanimously:

- (a) **APPROVED** the proposed route option for the Chisholm Trail for the purposes of public consultation.
- (b) **GAVE APPROVAL** to proceed to consultation on the route in the Autumn 2015.

## 7. CROSS-CITY CYCLE IMPROVEMENTS

The Executive Board considered a report which summarised the strategic approach and key principles for developing the cross-city cycle improvements programme in Cambridge and set out some early work that had been undertaken, informed by stakeholder engagement, on the routes which would benefit most.

Councillor Roger Hickford, Vice-Chairman of the Joint Assembly, provided the Executive Board with a report following consideration of this issue at the meeting of the Assembly held on 15 July 2015. He reported that the Assembly was very encouraged by the report and had unanimously endorsed the recommendations contained within it.



Graham Hughes, Executive Director of Economy, Transport and Environment at Cambridgeshire County Council, presented the report and highlighted that the proposed priority cross-city cycle schemes represented strategic links to both radial and orbital cycle routes, especially those to employment or development sites. Appendices 2 and 3 of the report set out a scoring methodology and a list of scored schemes, respectively. Plan 1 attached to the report also illustrated the proposed location of City Deal cross-city schemes. It was noted that the chosen schemes were the result of the outcomes of a stakeholder workshop held on 7 March 2015, but that these were in addition to schemes planned to form part of other City Deal packages or other highways projects that would be delivered by the County Council.

The Executive Board unanimously:

- (a) **APPROVED** the choice of the proposed priority strategic cross-city cycle schemes set out in the report.
- (b) **APPROVED** the public consultation on the schemes set out in the report.
- (c) **AGREED** to receive a report on the consultation results of each scheme and endorse the findings.

## 8. SMARTER CAMBRIDGESHIRE WORKSTREAM

The Executive Board considered a report which set out a proposal to incorporate a 'smart cities' approach within the City Deal programme to help support the delivery of improved transport, skills and housing and unlock further sustainable economic growth within Greater Cambridge.

Councillor Roger Hickford, Vice-Chairman of the Joint Assembly, provided the Board with a report following consideration of this issue at the meeting of the Assembly held on 15 July 2015. He reported that the Joint Assembly had unanimously supported the recommendations contained within the report.

Noelle Godfrey, Connecting Cambridgeshire Programme Director, presented the report and referred to a 'smart cities' workshop that was held early this year with a number of local expert speakers and City Deal Joint Assembly and Executive Board representatives, where it was requested that a 'Smarter Cambridgeshire' proposal be developed. Proposals had therefore been worked up and the initial objectives of the Smarter Cambridgeshire project, through to 2016, were noted as being to:

- generate an outline 'smart architecture' blueprint which would facilitate the delivery of a 'test bed/demonstrator' programme;
- establish and deliver an initial one year test bed/demonstrator programme of work packages which implemented small scale 'smart' solutions, with a focus to transport related opportunities;
- establish and participate in a wider forum for collaboration with and information exchange between complementary work programmes and other initiatives across the wider Cambridge research and development communities to develop and showcase the smart credentials and profile of the area;
- investigate Government, EU and other funding opportunities and co-ordinate funding bids to develop the Smarter Cambridgeshire programme in both the short and medium term;
- investigate and develop collaboration opportunities with other nearby cities, including Peterborough and Milton Keynes;

- develop a longer term smart cities approach which reflects the level of ambition for Greater Cambridge. This would complement and influence the emerging City Deal programme to ensure that smart characteristics were incorporated within the overall approach to housing, transport and skills as part of the delivery of the City Deal.

In answer to a question regarding the conceptual nature of the technology concerned and how to assess the architecture to put in place, it was noted that this was the reasoning for having a blue print which would enable flexibility and for changes to be made as and when technology developed. An important factor that had usefully supported this was reported as being the joint working that had taken place across all sectors.

In terms of testing, Members of the Board were informed that officers had commenced discussions with Milton Keynes and other 'smart' cities to assist with testing. It was agreed that the infrastructure used had to be replicable and scalable if it was to be successfully rolled out.

The Executive Board unanimously **APPROVED** the establishment of a Smarter Cambridgeshire work stream for Greater Cambridge, as outlined in the Appendices to the report, to be overseen within the City Deal governance arrangements.

## 9. **GREATER CAMBRIDGE CITY DEAL WORK PROGRAMME AND SCHEDULE OF MEETINGS**

The Executive Board **NOTED** the City Deal work programme.

Future meetings of the Executive Board were confirmed to be held as follows:

1 October 2015 – 2pm  
3 November 2015 – 2pm  
3 December 2015 – 2pm  
15 January 2016 – 2pm  
3 March 2016 – 2pm  
8 April 2016 – 2pm  
16 June 2016 – 2pm  
22 July 2016 – 2pm  
8 September 2016 – 2pm  
13 October 2016 – 2pm  
17 November 2016 – 2pm  
15 December 2016 – 2pm

---

**The Meeting ended at 3.03 p.m.**

---

# Agenda Item 4

## **Questions by the public and public speaking**

At the discretion of the Chairman, members of the public may ask questions at meetings of the Executive Board. 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 the day 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 Executive Board, 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 Executive Board 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.

This page is left blank intentionally.

# Agenda Item 5

## Report of the Greater Cambridge City Deal Joint Assembly meeting 16 September 2015

### 1. General Report

#### 1(a) Questions from members of the public

We heard the following questions from members of the public:

ANTHONY CARPEN expressed interest in the Assembly assessing the City Deal's communications strategy. We felt that it made most sense to review this only after the appointment of a Communication Manager. We regretted that this had not yet occurred and expressed the hope that this would happen soon. He also asked about progress regarding the Haverhill Rail campaign since he last asked about it at the Board in January. We advised that, while we wished this campaign well, it was not part of the City Deal programme and Graham Hughes indicated that he was not aware of any further progress.

LYNN HIEATT called for public consultation on the range of traffic management models to reduce congestion which had been advanced by various local organisations such as use of electronic gates outside the city. Graham Hughes said that he expected that there would be consultation on this subject but the Board had yet to decide how and on what.

COUNCILLOR DES O'BRIEN asked for evidence on bus usage to support the expectation that investment in bus infrastructure along the A428 corridor would be matched by sufficient demand to justify viable expanded services. Graham Hughes responded that the upcoming public consultation on options for this corridor marked at an early stage in development of a project. Experience demonstrated that improved infrastructure itself changed patterns of demand, as had occurred with the Guided Busway. Before a scheme could be implemented a business case would be required which satisfied Department of Transport criteria, but this required a project option to be defined.

***Further comment or discussion from the Board is invited as desired.***

#### 1(b) Assembly future programme of work

The Assembly discussed its contribution to the developing City Deal agenda. Members from all constituencies within the Assembly emphasised the importance of engagement with local people about the innovative suggestions and ideas being publicly advanced to reduce congestion in Cambridge. Noting that the Board had still to settle on what it wanted to put to a broader public consultation, members felt that it was the role of the Assembly in the meantime to sift the various alternatives, bring to the surface their benefits and disadvantages and provide recommendations to the Board. With its diverse composition, the Assembly was uniquely placed to carry this out. It agreed:

That it would investigate the leading models of transport management to reduce congestion in the city with any recommendations being passed onto the Executive Board, and asked the Chairman and Vice-Chairman to liaise with officers to pursue consideration of this issue.

***The Board is invited both to note this decision and is encouraged to support it as a constructive means of enhancing public understanding in and involvement with one of the most challenging decisions facing the City Deal.***

The Assembly also put in place a process of identifying other items for possible inclusion on their agenda in future. It agreed:

That members of the Joint Assembly submit any other suggestions for future discussion topics to the Chairman for consideration at future meetings.

## **2. Recommendations on reports to the Board**

### **2(a) M11 Bus-only Slip Roads**

Members discussed the report and noted officer advice to return to these schemes when considering Western Orbital options, the process for which would begin in December. Many members were impatient to make progress, in particular with changes to the M11 southbound exit at junction 11, which it regarded as a relatively inexpensive easy win. Some members had reservations about advancing one potential component of a Western Orbital scheme out of context with definition of a broader scheme, for which options could then be constrained and which might delay a broader scheme. The following was however agreed:

***THAT the Executive Board be requested to accelerate improvements to Junction 11 of the M11 as soon as possible, as a standalone project.***

We unanimously supported the officers' other recommendations, modified only to reflect our request for Junction 11:

- (a) THAT the Executive Board notes the findings of the technical report.***
- (b) THAT the Executive Board notes that the outcome of the A428/A1303 (Maddingley Rise and Maddingley Road) corridor and Western Orbital scheme development work will be the key determinant in considering the future recommended bus priority options set out in the report, in respect of Junction 13 of the M11***

### **2(b) Greater Cambridge City Deal Financial Monitoring**

The following points from our discussion are drawn to the attention of the Board for confirmation:

1. A request was agreed by Chris Malyon to correct the City Deal project expenditure sheet in the report which wrongly described figures as cumulative;
2. It was also agreed that future financial monitoring reports would include a parallel explanation of the progress of staff recruitment and its impact;
3. Clarification was provided that the funding requirement for the skills project was being treated as a financial commitment like earlier decisions and it would in future be shown as such;
4. In answer to a question, Chris Malyon stated that part of the uncommitted revenue funding that remained could in principle be used to support the Assembly pursuing discussions of its own selection in relation to the development of the City Deal, subject to the decision of the Board;

5. The meaning was questioned of section 4.9 in the report on uncertainty over future revenue funding and its impact on staffing. It was clarified that all current revenue spending commitments were supported for up to 5 years by the 2015/16 contributions already made by the three councils and that staff appointments were being made in that context.

The Assembly agreed to recommend that the Executive Board:

- (a) ***Notes the financial position as at 31 August 2015***
- (b) ***Agrees to the funding of the ongoing revenue commitments, as set out in the report***
- (c) ***Agrees the proposed framework for considering new proposals to be funded from the non-project resource pool.***

**2(c) Greater Cambridge City Deal workstream update**

In the course of reviewing this report the Assembly requested its chair to write to the local MPs seeking their support in moving forward the parliamentary approval necessary for the formation of a Greater Cambridge combined authority encapsulating the objectives of the City Deal, as had been committed in the agreement with the government.

**2(d) Greater Cambridge City Deal Forward Plan and Schedule of Meetings**

This was noted.



This page is left blank intentionally.

# Agenda Item 6



**Report To:** Greater Cambridge City Deal Executive Board

1 October 2015

**Lead Officer:** Graham Hughes, Executive Director of Economy, Transport and Environment, Cambridgeshire County Council

---

## M11 Bus-only Slip-Roads Feasibility Report

### 1. Purpose

1.1 On 17<sup>th</sup> June 2015 the Greater Cambridge City Deal Executive Board instructed officers to bring a report to the September cycle of the Joint Assembly and Executive Board meetings containing a high level appraisal of the technical implications and costs of creating bus-only slip-roads at the following locations:

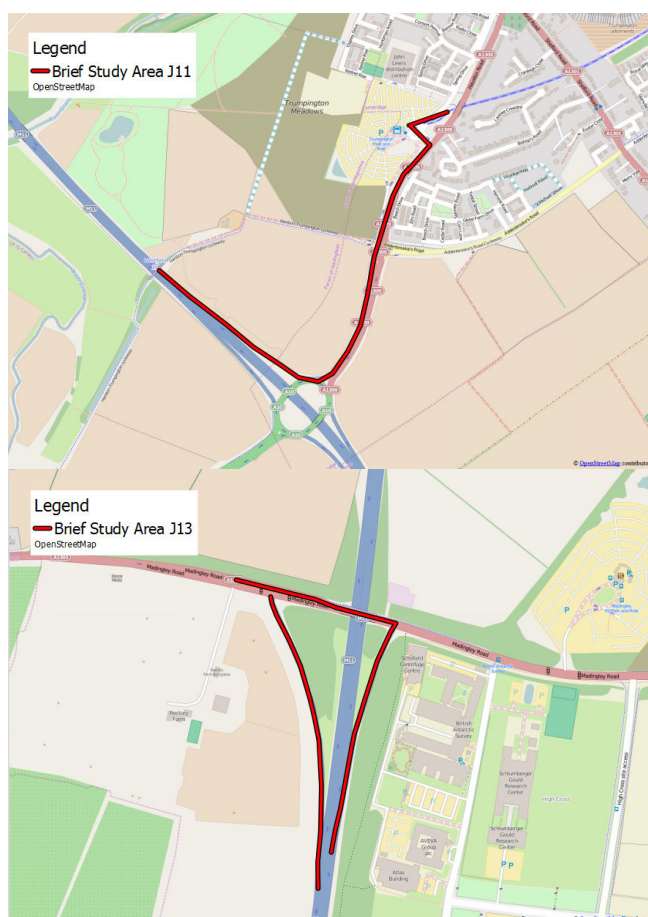
(i) M11 junction 13: when turning off the A1303 (going east) onto the M11 (going south);

(ii) M11 junction 13: creating a bus lane alongside the existing sliproad off the M11, that would get priority treatment at the traffic lights;

(iii) M11 junction 11: turning off the M11 (going south) between the existing farm and footbridge and the existing slip-road, then going round the corner of the farmland at Trumpington Meadows, running parallel to (and west of) Trumpington Road, and entering the Trumpington Road Park and Ride thence joining up to the Guided Busway.

1.2 In relation to J13 it was considered necessary in order to ensure that the appraisal was realistic in an operational context, to assess options for bus priority across the junction. This is because it would not be realistic to only appraise bus slip roads if buses could not access the slip roads with priority.

1.3 The study areas are set out in Map 1 (next page.)



**Map 1: Study areas for this report**

1.3 The technical report is appended to this paper. A summary of the concepts and a short assessment of their impact on the A42/Western Orbital Study is contained in section 4 below.

1.4 This study has identified that a number of concepts are available to provide bus-only slip roads at Junctions 11 and 13 of the M11. Costings and concept designs have been provided for each concept.

1.5 This study avoids policy based assessment of the appraisal options. Some of the concepts may not be policy compliant to the adopted local transport strategy objectives. No concepts are 'recommended' or 'preferred' but are set out for illustrative purposes only for completeness. Any further assessment of these (or other) concepts should be carried out in the context of the relevant City Deal project development framework.

## **2. Recommendations**

2.1 The Board is asked to:-

- (i) Note the findings from the technical report;
- (ii) Note that the outcome of the A428/ A1303 (Madingley Rise and Madingley Road) corridor and Western Orbital scheme development work will be the key determinant in considering the future recommended bus priority options in the locations set out in this report.

## **Recommendations from the Joint Assembly**

### **The Joint Assembly:**

- (a) Agreed that the Executive Board be requested to accelerate improvements to Junction 11 of the M11 as soon as possible, as a stand alone project.
- (b) Recommended that the Executive Board notes the findings of the technical report.
- (c) Recommended that the Executive Board notes that the outcome of the A428/A1303 (Madingley Rise and Madingley Road) corridor and Western Orbital scheme development work will be the key determinant in considering the future recommended bus priority options in the locations set out in the report, in respect of Junction 13 of the M11.

## **3 Reasons for Recommendations**

3.1 The A428/ A1303 corridor scheme is a high priority scheme for the City Deal programme and a key proposal within the Local Transport Plan 2011-2026. The Western Orbital is a scheme undergoing early development as part of the City Deal with the objective of providing for orbital bus movements to the west of Cambridge.

3.2 Both of these schemes will be developed through the Department for Transport major scheme framework approach (WebTag). This will include wide ranging technical work, public consultation and support the recommendation of a preferred option or options for these schemes. In addition, a preferred alignment and level of public transport priority can be determined. Until the relevant stage of this process has been reached it is unknown if/how improvements of junctions 11 and 13 of the M11 will support the preferred options. Continued development of one of the options included within this M11 study outside of the Webtag process could therefore result in abortive work/costs. It may also unduly impact the 'stage by stage' method of assessment which will be a key factor in assessing schemes during the necessary statutory processes.

3.3 The concepts within this paper have been generated primarily on the basis of engineering feasibility. Some of the concepts are likely to have major strategic and policy level impacts both within the City Deal context as well as the adopted local transport strategies. These impacts have not been assessed.

## **4 Background**

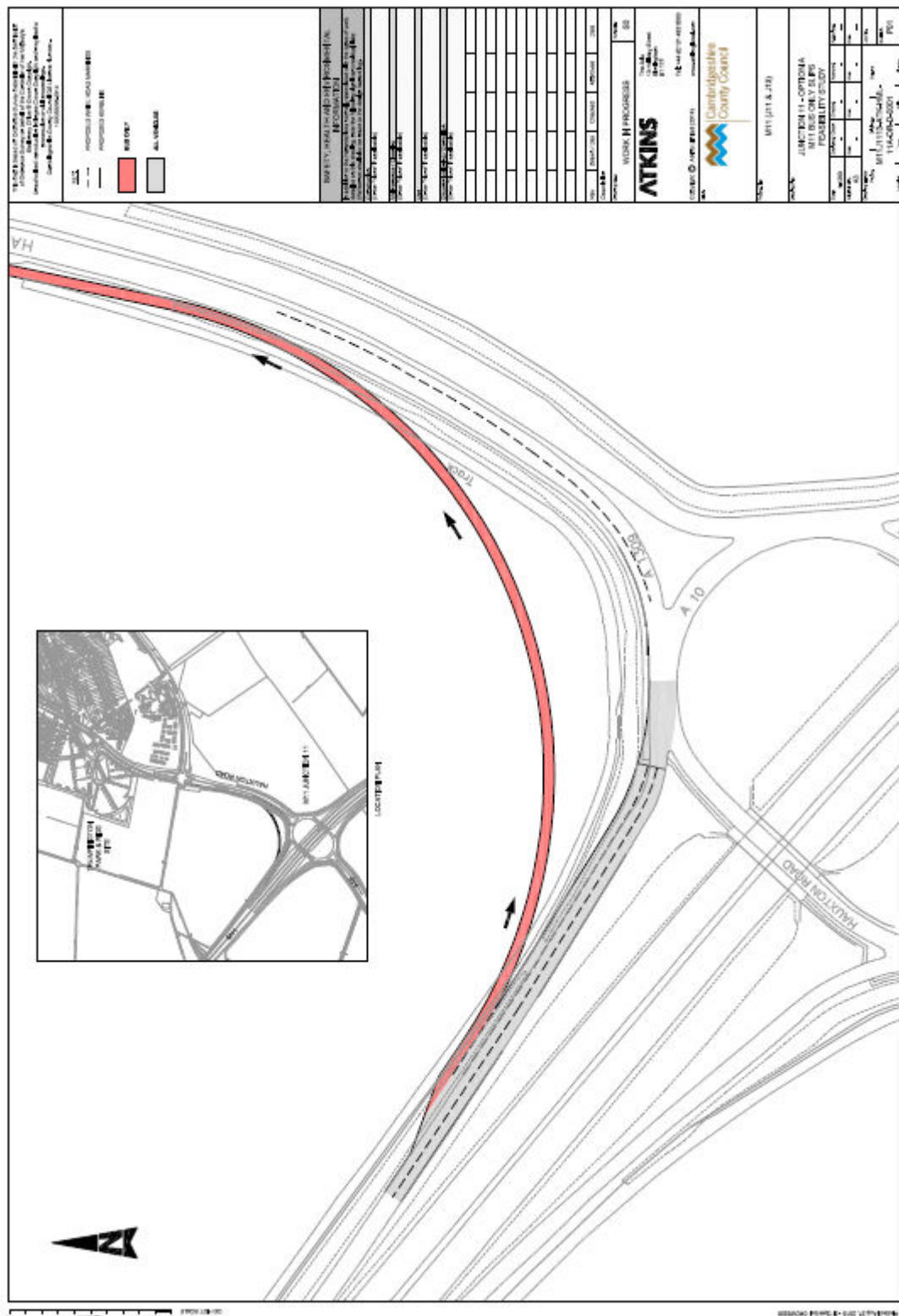
4.1 This study has been approached separately at this time to the City Deal projects and each option considered has been taken as a stand-alone scheme designed to operate independently.

4.2 As with other City Deal work, the study firstly identified a long list of concepts that were generated and assessed in order to identify a short list for more detailed analysis.

4.3 The following shortlisted concepts are summarised below

## Junction 11: Concept A

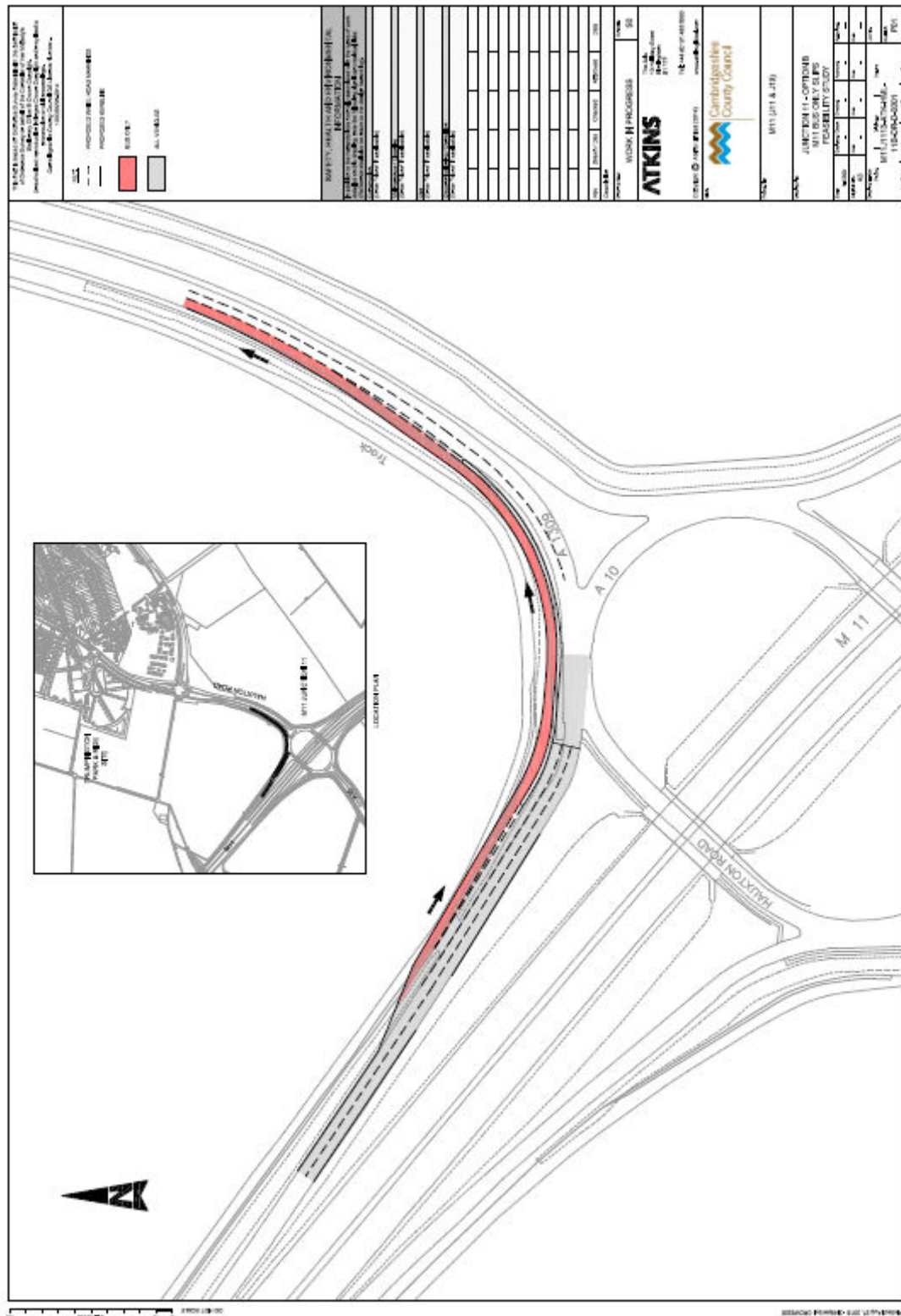
This option provides a bus-only access road running alongside the existing general traffic slip road from the M11 towards Trumpington Park and Ride. This option also provides a fully segregated bus-only access to the Park and Ride site.



**Map 2: J11 Concept A**

### Junction 11: Concept B

This option provides a bus-only access route parallel to the existing off slip and bypasses the existing traffic signals at the end of the slip road. The bus only access route then continues onto the dedicated Park and Ride traffic lane beyond the junction.

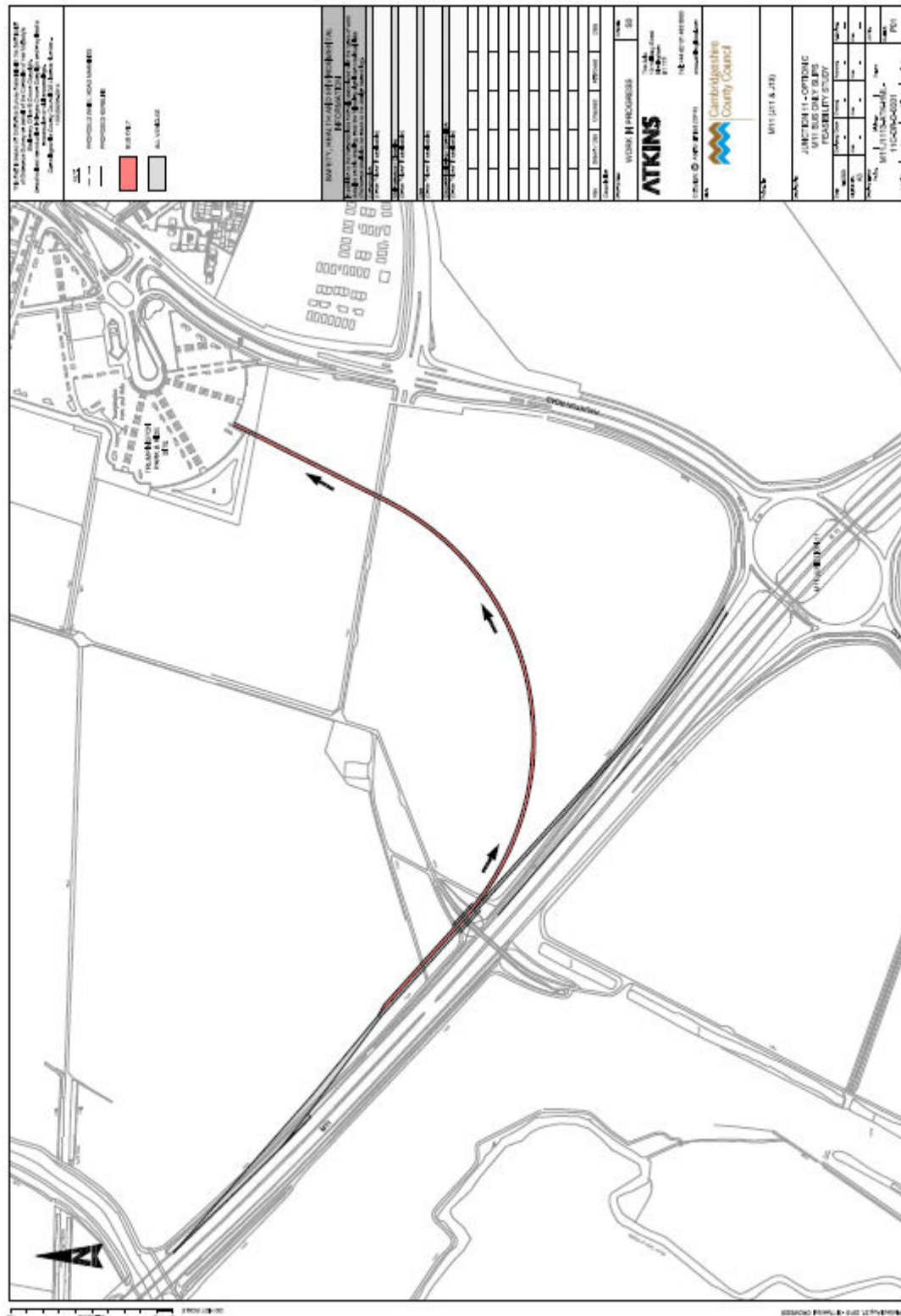


**Map 3: J11 Concept B**



This option provides a bus-only slip road leaving the M11 prior to the existing agricultural bridge (for buses travelling southbound on the M11). It is likely that this option could require widening of the existing agricultural bridge. The segregated bus-only lane could continue to the Park & Ride site.

This option provides a bus-only slip road leaving the M11 prior to the existing agricultural bridge (for buses travelling southbound on the M11). It is likely that this option could require widening of the existing agricultural bridge. The segregated bus-only lane could continue to the Park & Ride site.



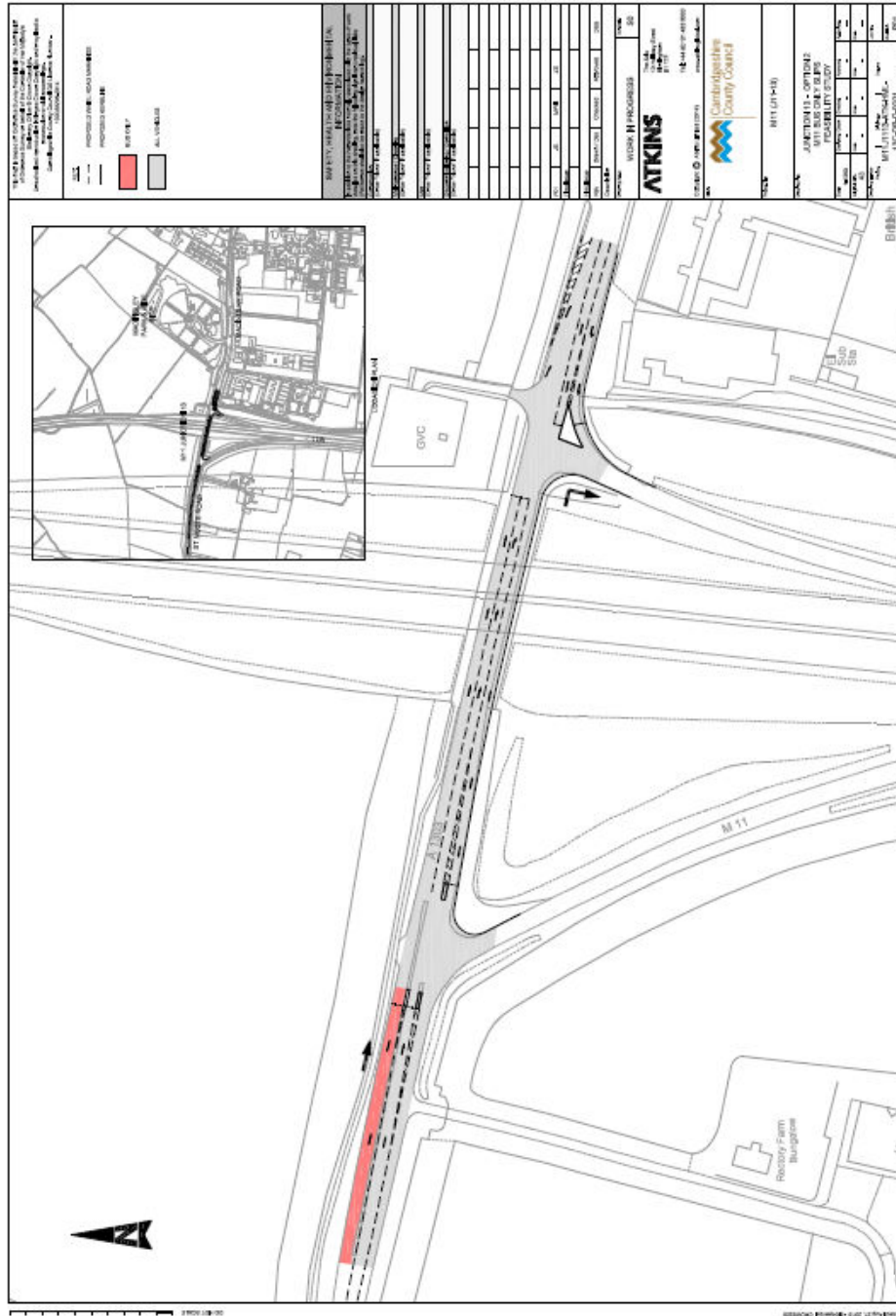


This concept provides a bus-only lane eastbound over the M11 on Madingley Road towards Cambridge. No signals are present in this option, allowing the bus to continue forward unobstructed. An introduction of bus detector loops would enable a 'green wave' across the bridge towards Cambridge and the M11 southbound. A new signal controlled junction would be required to the east of the bridge for the M11 southbound on-slip.



## Junction 13: Concept 2

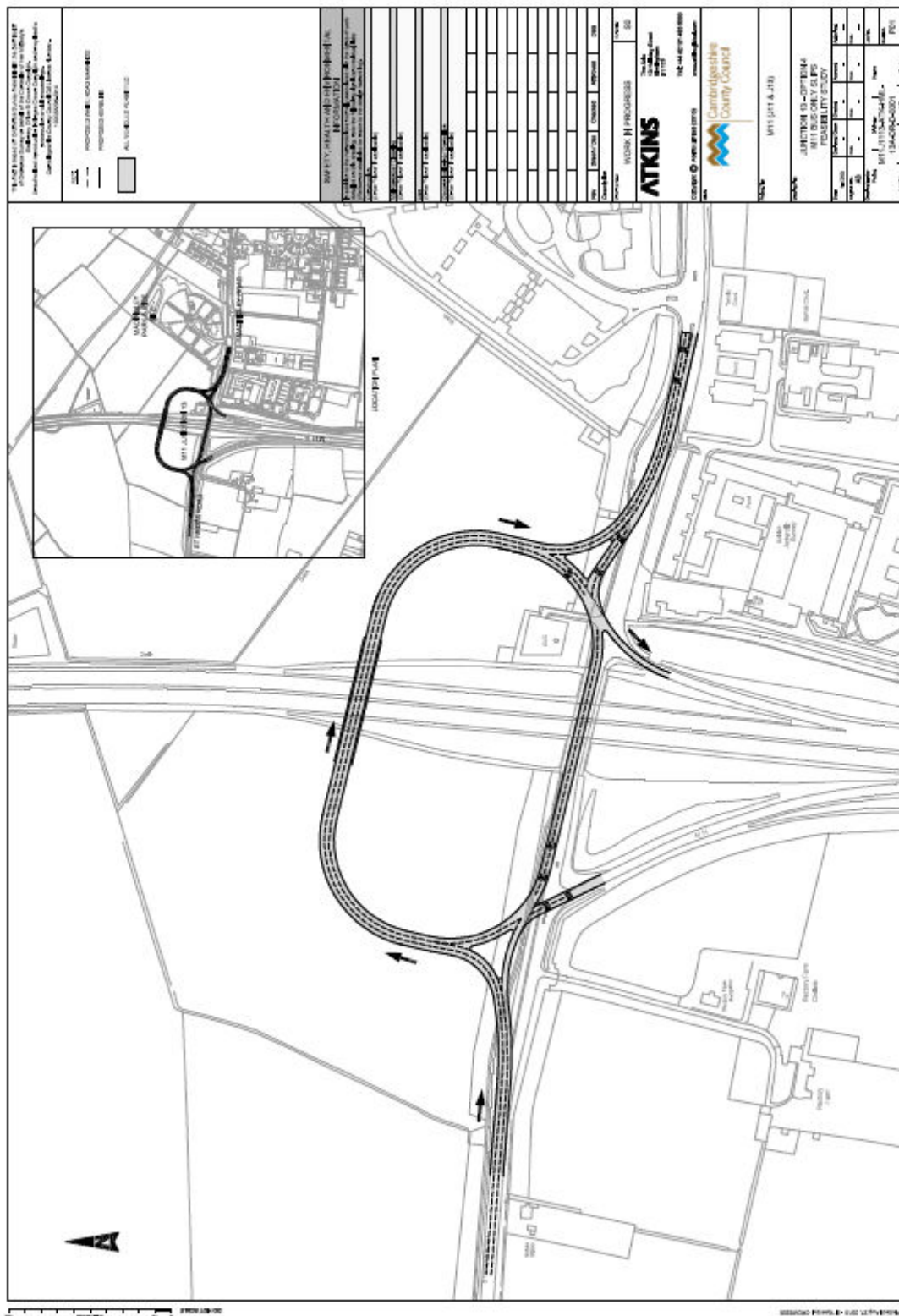
Concept 2 provides a bus priority measure based on vehicle detection on the eastbound approach to Madingley Road Bridge for buses turning right onto the M11. Buses can be held at the signals to allow traffic coming off the M11 to turn onto Madingley Road and merge into the straight-ahead lane unobstructed. Buses heading eastbound would have priority at the signals over other vehicles. The introduction of bus detector loops to enable a 'green wave' across the bridge towards Cambridge and the M11 southbound. A new signal controlled junction would be installed to the east of the bridge for the M11 southbound on-slip to ensure that traffic does not block back across the bridge preventing the bus gate from operating effectively.



**Map 6: J13 Concept 2**

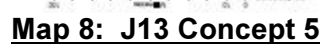
## Junction 13: Concept 4

Concept 4 requires the construction of a new gyratory at the junction with all-traffic capacity. This would involve a new structure over the M11 to the north of the current bridge. The gyratory would accommodate 3 traffic lanes.



**Map 7: J13 Concept 4**

This concept provides of a bus-only loop to the north of Junction 13 to bring buses from the Madingley Road Bridge south onto the M11 prior to general traffic joining. In order to prevent buses turning right onto the slip road a bus lane is proposed to run across the bridge and down the loop, unopposed. A total of four lanes would run across the bridge (3 eastbound and 1 westbound). The potential for a bus stop to serve Madingley Park & Ride and the Cambridge North-west development was also discussed.



4.54 The shortlisted concepts for junctions 11 and 13 was sent to Highways England for comment. Highways England do not have any policy objections to the principle of bus priority measures at motorway junctions. Any objections are likely to relate to design issues such as adherence to standards or operation matters such as congestion or safety. In addition to this, while in policy terms new junctions on motorways can be supported for public transport interchanges there would nevertheless need to be a strong case, in particular justifying why access cannot reasonably be achieved via an existing junction.

4.5 Highways England also provided a number of technical comments for each of the concepts that would need to be reviewed should any of the concepts be progressed further, along with continued engagement.

4.6 As has been discussed any more detailed work on the concepts would be within the context of the A428/Western Orbital work. However it is recognised that it may be of interest to briefly summarise any known implications of each concept on these option development work for these projects and these are offered in Table 1.

<b>Table 1: Concepts in the context of developing City Deal Schemes</b>		
	<b>A428</b>	<b>Western Orbital</b>
<b>J11 Concept A</b> (bus only access road alongside existing slip)	No direct impact on options	<p>Only limited bus priority would be available approaching J11 as bus lane length would be limited by agricultural bridge - could affect business case</p> <p>Low penetration to Trumpington Meadows development – could affect business case</p> <p>If new P&amp;R is created on west of motorway it would need to be joined via new bus link across motorway</p> <p>Does not fit well with a new busway next to M11 as no reason to take bus as far as J11.</p>
<b>J11 Concept B</b> (bus lane on existing slip)	No direct impact on options	As Concept A



<b>Table 1: Concepts in the context of developing City Deal Schemes</b>		
	<b>A428</b>	<b>Western Orbital</b>
<b><u>J11 Concept C</u></b> (new bus only route coming off before existing J11)	No direct impact on options	<p>Offers more 'bus priority' benefits because could avoid constraint of agricultural bridge.</p> <p>High level of penetration in Trumpington Meadow which could support business case</p> <p>Fits best with busway alongside M11 as otherwise it would create new interface with M11 itself which may not win support from HE – due to enforcement and safety issues.</p> <p>If new P&amp;R is created on west of motorway it would need to be joined via new bus link across motorway</p>
<b><u>J13 Concept 1</u></b> (bus lane across existing bridge)	<p>This option works against M11 running for buses because it does not address congestion at J13 from M11 so buses would be caught in general traffic queue unless Highways England (HE) agreed to hard shoulder running</p> <p>As such this option would tend to support a busway along side the M11 to avoid J13 altogether</p>	<p>This concept shows that it is possible to put a bus lane across the bridge which would support A428 options 1A and 1B however the key issue would be the cost to general traffic delay.</p> <p>It should be noted that Option 1C avoids the M11 bridge altogether.</p>
<b><u>J13 Concept 2</u></b> (bus gate across existing bridge)	As concept 1	This option involves a long phases of stationary traffic to allow buses to 'clear' the bridge. This could promote priority in line with A428 Options 1A and 1B but again at potential high cost to general traffic.

Table 1: Concepts in the context of developing City Deal Schemes		
	A428	Western Orbital
<b><u>J13 Concept 4</u></b> (new gyratory adding to existing junction)	<p>This concept could potentially support M11 running for buses if it reduced congestion at J13. In that case buses could receive a new bus lane on the junction approach close enough to make a difference.</p> <p>This concept could result in more traffic on local routes which may create congestion problems in other parts of the network that could negatively impact bus priority schemes on existing highway.</p>	<p>This option could support option 1A and 1B if it improved traffic flow across the M11 bridge and perhaps provided a direct arm to the Madingley Road P&amp;R site (much of the delay on Madingley Road is currently due to the P&amp;R junction) It could also provide an arm to the northern loop of option 1B.</p> <p>If capacity of junction 13 were increased for general traffic this may impact the business case for P&amp;R at J11. If car journeys were made more attractive from J13 to J11 then this could impact business case for Western Orbital.</p>



<b>Table 1: Concepts in the context of developing City Deal Schemes</b>		
	<b>A428</b>	<b>Western Orbital</b>
<b>J13 Concept 5</b> (new bus only slip road southbound)	<p>This option does not address the congestion issues at J13 for general traffic and so would not support M11 running north bound because buses would continue to be caught in existing queues.</p> <p>On the south bound it would provide priority access but in reality there is no need for this because the existing J13 southbound is only backed up if there is congestion on the motorway itself so this option would only work with hard shoulder running in that instance which is unlikely to be agreeable to HE.</p> <p>As such it does not seem possible to combine this option with a busway directly – buses would have to emerge onto the M11 and then re-join a busway at a later point – but again this may not be acceptable to HE</p>	<p>This concept has less direct impact on options 1A and 1B in itself however in practice it would likely need to be combined with concepts 1 or 2 above in order to allow for 'Western Orbital' buses to get to the new loop in a prioritised way. In this case the comments on concepts 1 and 2 above would also apply.</p>

**Table 1: Brief review of concepts on A428/Western Orbital**

4.7; The summary of Table 1 is that in each of the shortlisted concepts would have impacts on the preferred option development in one or the other or both of the linked projects. This further supports the recommendation that the key next steps are to establish preferred options for the linked projects to ensure congruence with consideration of the junctions.

4.8 Impacts on the local road network and the consistency with other City Deal scheme proposals (for example those that could be adopted in the city centre) would need to be fully understood before any assessment on impacts could be made. As such these designs are presented only as 'concepts' with no recommendation as to which would be preferred.

## **5 Next Steps**

5.1 The pre-existing development work for both the A428/A1303 and Western Orbital schemes will continue including public consultation to be carried out with the aim of identifying a preferred option.

5.2 The bus priority concepts contained in this report may be considered further at a later date should they tie in with the preferred options identified in the A428/A1303 and/or Western Orbital study. At that stage other concepts may be generated. Any concepts developed as part of these other projects would be fully assessed for engineering, environmental and policy impacts.

## **6 Implications**

6.1 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:	None
Legal:	There are no legal implications in this report.
Staffing:	Project management is undertaken by the Cambridgeshire County Council Major Infrastructure Delivery team.
Risk;	A full project risk register has been developed.
Equality & Diversity	There are no equality or diversity implications in this report.
Climate Change:	There are no climate change implications in this report.
Community Safety:	There are no community safety implications in this report.

## **Appendices**

### **M11 BUS-ONLY SLIP-ROADS FEASIBILITY REPORT**

Appendices to this document can be viewed via the following link:

<http://www.gccitydeal.co.uk/citydeal/info/2/transport/1/transport/3>

## **Background Papers**

No other background papers were relied upon in the writing of this report.

**Report Author:** Ashley Heller - Team Leader, Public Transport Projects, Major Infrastructure Delivery, Cambridgeshire County Council.  
Telephone: 01223 728137

This page is left blank intentionally.

# M11 Bus-only Slip-Roads

## Feasibility Report

Cambridgeshire County Council

21 August 2015

# Notice

This document and its contents have been prepared and are intended solely for Cambridgeshire County Council's information and use in relation to M11 Junctions 11 and 13 Bus-only Slip Roads Feasibility Study.

Atkins Ltd assumes no responsibility to any other party in respect of or arising out of or in connection with this document and/or its contents.

This document has 41 pages including the cover.

## Document history

Job number: 5142213			Document ref: M11 Bus-Only Slip Road Draft Issue			
Revision	Purpose description	Originated	Checked	Reviewed	Authorised	Date
Rev 1.0	Draft Report	AB	AB	RLC	RLC	17/08/2015
Rev 2.0	Second Draft Report	AB	SA	TC	TC	20/08/2015
Rev 3.0	Issued Working Draft	AB	SA	TC	TC	21/08/2015

## Client signoff

Client	Cambridgeshire County Council
Project	M11 Bus-only Slip-Roads
Document title	Feasibility Report
Job no.	5142213
Copy no.	1
Document reference	M11 Junctions 11 and 13: Bus-only Slip Roads Feasibility Report.doc

# Table of contents

Chapter	Pages
<b>1. Introduction</b>	<b>5</b>
1.1. Background	5
1.2. Objectives of the Report	5
1.3. Structure of Report	7
<b>2. Methodology</b>	<b>8</b>
2.1. Initial Option Review	9
2.2. Option Development and Assessment	9
2.3. Limitations of this Report	10
<b>3. Data Collection and Desktop Study</b>	<b>11</b>
3.1. Desktop Study	11
3.2. Utilities Searches	12
3.3. Traffic Counts	12
<b>4. Initial Option Review</b>	<b>13</b>
4.1. Initial Scoping	13
4.2. Summary	15
<b>5. Option Development and Assessment</b>	<b>16</b>
5.1. Bridge Assessment	16
5.2. Design	16
5.3. High Level Modelling Assessment: Junction 13	17
5.4. Traffic Flow Analysis: Junction 11	19
<b>6. Option Costing</b>	<b>20</b>
<b>7. Option Review</b>	<b>21</b>
<b>8. Summary and Conclusions</b>	<b>26</b>
8.1. Summary	26
8.2. Conclusions	26
<b>Appendix A. Examples of Existing Schemes</b>	<b>28</b>
A.1. Luton Airport	28
A.2. Heathrow Spur	29
A.3. M606 Bradford	30
A.4. Brian Clough Way, Nottingham	31
<b>Appendix B. Utilities Searches Report</b>	<b>32</b>
<b>Appendix C. Initial Option Plans</b>	<b>33</b>
<b>Appendix D. Bridge Assessment Technical Note</b>	<b>34</b>
<b>Appendix E. High-level Drawings</b>	<b>35</b>
<b>Appendix F. Design Process Note</b>	<b>36</b>
<b>Appendix G. Modelling Technical Note</b>	<b>37</b>
<b>Appendix H. Traffic Flow Analysis</b>	<b>38</b>
<b>Appendix I. Costings Summary</b>	<b>39</b>

## Tables

Table 6-1	Option Costing .....	20
Table 7-1	Option Review.....	22

**Figures**

Figure 1-1	M11 Junction 13 Focus Area .....	6
Figure 1-2	M11 Junction 11 Focus Area .....	6
Figure 2-1	Methodology .....	8

DRAFT



# 1. Introduction

Atkins has been commissioned by Cambridge County Council (CCC) to undertake a high-level appraisal of bus-only slip lanes at Junctions 11 and 13 of the M11. Opportunities to improve bus journey time reliability have been considered which include new bus only slip roads and provision of bus-only lanes. High-level appraisals have been undertaken to review the scheme feasibility and provide indicative costs for the options.

This report emerged as the result of recommendations made by the City Deal Joint Assembly to the City Deal Executive Board on the 3<sup>rd</sup> June 2015. This report has been brought forward at this time as a result of these recommendations, however it must be noted that this is out of sequence with a full assessment of such infrastructure improvements. A full assessment of any options that are worthy of further consideration will be undertaken in due course. This report will be presented at the October cycle of City Deal Joint Assembly and City Executive Board meetings.

These proposals are not included in the Transport Strategy for Cambridge and South Cambridgeshire. As such this report avoids a policy based assessment of the appraisal options. Some of the options may not be policy compliant to the adopted local transport strategy objectives. No options are 'recommended' or 'preferred' but are set out for illustrative purposes only for completeness. Any further assessment of these (or other) options should be carried out in the context of the relevant City Deal project development framework.

## 1.1. Background

Currently a number of infrastructure schemes are being proposed as part of the Cambridge City Deal. These include schemes within the A428 Corridor Study and the Western Orbital Study. The A428 Corridor Study aims to provide advice to the City Deal partners on options to help deliver congestion free public transport serving the A428 corridor in order to avoid an increase in current congestion levels and public transport journey times. A number of options have been identified which will be going out to public consultation in October 2015. The Western Orbital study considers the potential to provide an orbital route to the west to improve access to existing and proposed residential and commercial areas.

This report reviews opportunities to provide bus-only slip roads at Junctions 11 and 13 of the M11 to improve journey time reliability for existing buses using these junctions. This report has been developed separately to the City Deal projects and each option considered has been taken as a stand-alone scheme designed to operate independently. However, in concluding the impact of each option it is important to consider its wider impact in terms of other proposals as well as local impacts. A full assessment of any options considered further will be undertaken in due process in the fullness of time.

## 1.2. Objectives of the Report

The aim of this report is to conduct an initial and high-level appraisal of the technical implications and costs of creating bus-only slip-roads to present to the October cycle of City Deal Joint Assembly and City Deal Executive Board meetings.

The junction locations are shown in Figure 1-1 for M11 Junction 13 and Figure 1-2 for M11 Junction 11.

- 1) At M11 Junction 13: when turning off the A1303 (going east) onto the M11 (going south);
- 2) At M11 Junction 13: creating a bus lane alongside the existing slip-road off the M11, which would get priority treatment at the traffic lights; and
- 3) At M11 Junction 11: turning off the M11 (going south) between the existing farm and footbridge and the existing slip-road, then going round the corner of the farmland at Trumpington Meadows, running parallel to (and west of) Trumpington Road, and entering the Trumpington Road Park and Ride thence joining up to the Guided Busway.

While meeting these parameters it was considered relevant to ensure that a wider assessment of the junction options was also undertaken. This provides for a more realistic set of proposals which reflect the actual constraints/opportunities of the junction.

Figure 1-1 M11 Junction 13 Focus Area



Figure 1-2 M11 Junction 11 Focus Area



In order to meet the overall objectives of the report a number of deliverables have been identified by CCC as follows:

- To prepare a report outlining a high feasibility assessment for the provision of bus-only slip roads at Junctions 11 and 13 of the M11;
- To produce an indicative concept design for Junction 11 southbound dedicated bus access to Trumpington Park and Ride, including indicative alignment and traffic control / management measures;
- To produce an indicative concept design for Junction 13 southbound and northbound dedicated bus access to the A1303, including indicative alignment and traffic control / management measures;
- To produce an indicative alignment for bus priority across the existing Junction 13 bridge, allowing for a right turn manoeuvre into the southbound slip;
- Provide a basic operational assessment of Junction 13 options;
- To provide a separate technical note reviewing the Junction 13 bridge;
- To provide a model validation report, outlining the modelling process;
- To provide an outline budget cost for each option presented, taking into account services present at the Junction 13 bridge; and
- To identify comparable bus-only slip roads on motorways in the UK.

### 1.3. Structure of Report

The remainder of this report is structured as follows:

- **Section 2** details the methodology undertaken to achieve the aims and objectives outlined by the City Deal Joint Assembly to the City Deal Executive Board and CCC;
- **Section 3** outlines the data obtained through desktop research and a site visit;
- **Section 4** provides details of the initial option development including those options discounted at this stage;
- **Section 5** outlines the processes involved in option testing including traffic modelling, highway design and bridge assessments;
- **Section 6** provides a provisional costing of each of the options;
- **Section 7** provides a review of those options tested in Section 5 focusing on the impacts on buses and general traffic; and
- **Section 8** provides our summary and conclusions.

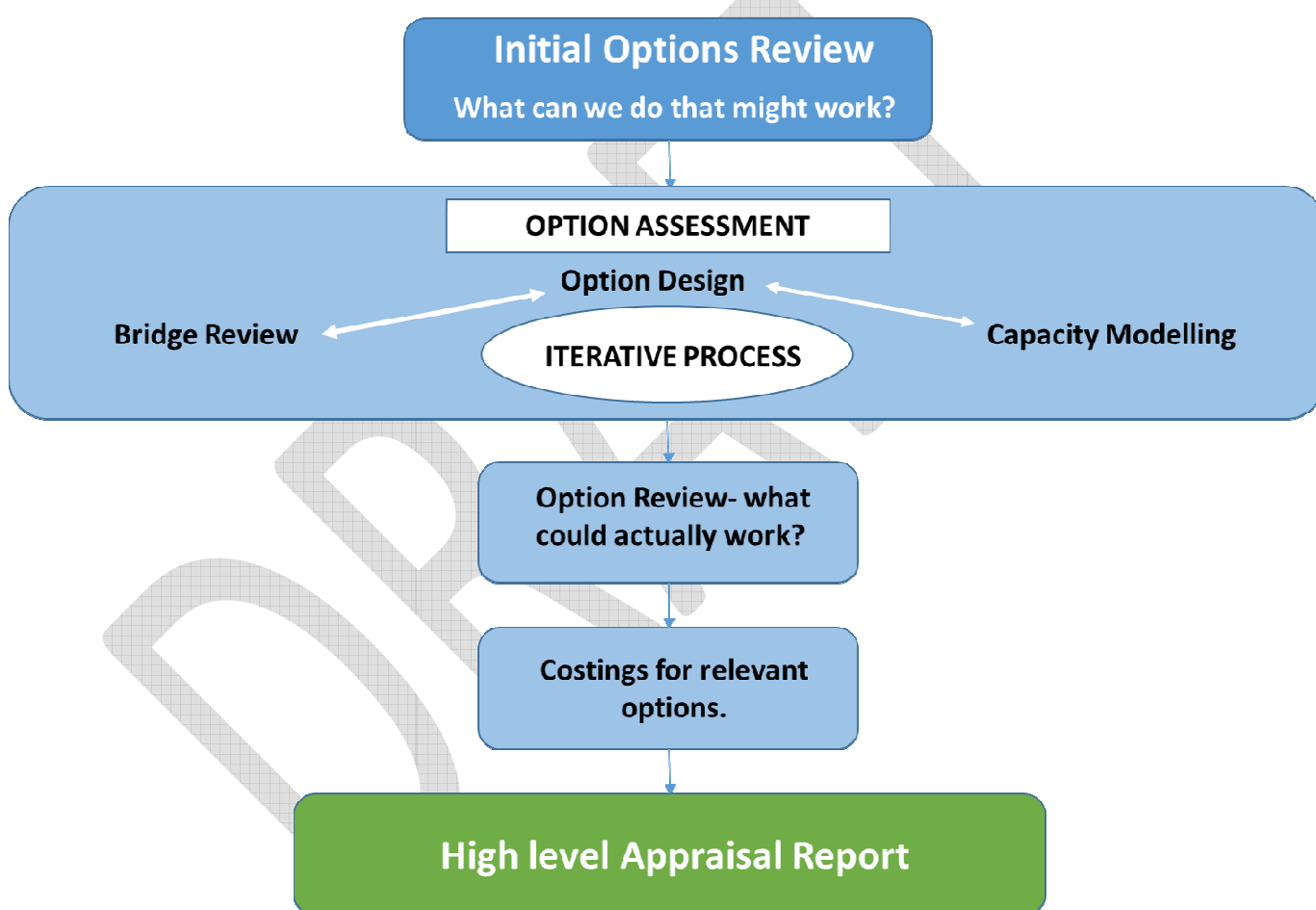
## 2. Methodology

This section of the report summarises the methodology used to generate, assess, review and cost options for providing bus-only slip roads at Junctions 11 and 13 of the M11.

The aim of this report is to provide an initial and high-level appraisal of the technical implications and costs of creating bus-only slip roads. The methodology focuses upon providing an assessment of the 'workability' of each option based upon highway design, bridge assessment and traffic modelling, with provisional costing of options. The assessment does not include strategic modelling or cost-benefit analysis and it is not intended that the assessment is WebTag compliant since it is outside of the City Deal process and is focussed on providing an assessment of the high-level feasibility rather than economic justification of any option.

The overall methodology followed during the assessment is set out in Figure 2-1 and summarised below.

**Figure 2-1 Methodology**





The methodology required close collaboration of highway engineers, bridge engineers and traffic modellers. In addition regular workshops were held with CCC to inform on current process and review options at the initial option review and option assessment stages. The methodology does not consider policy compliance review as this was considered outside the scope for this high level review project.

## **2.1. Initial Option Review**

Work on the report commenced with an internal workshop held by Atkins on 16<sup>th</sup> July, closely followed by a workshop between CCC and Atkins on 22<sup>nd</sup> July to scope potential options for providing bus-only slip roads at Junctions 11 and 13 of the M11. The workshops focused upon the options outlined by the City Deal Joint Committee (see Section 1.2), however, other options for providing bus-only slip roads were also considered where these were considered to be in line with the aims and objectives of the report.

The purpose of the initial options review was to generate options and discuss any which were felt to be unworkable at this early stage. As a result of discussions some options were discounted and did not continue to the option assessment stage. During the initial options review stage a desktop review of other bus-only slip roads within the UK was also undertaken to inform the development of options during the option assessment stage.

## **2.2. Option Development and Assessment**

Following the initial options review a total of 3 options for Junction 11 and 4 options for Junction 13 were considered in the option development and assessment stage. The option development and assessment followed an iterative process with bridge assessment, highway design and traffic modelling all taking place simultaneously.

During the option development and assessment process any options shown to be unworkable in terms of bridge assessment, highway design or traffic modelling were immediately discounted.

### **2.2.1. Bridge Assessment**

A bridge assessment was undertaken based on information provided by Highways England and utilities searches undertaken by Atkins. The assessment at Junction 13 was undertaken to consider whether it was feasible to reconfigure the highway cross section within the width available between the bridge parapets to provide additional space for buses. The full assessment is presented in a Technical Note in Appendix D.

### **2.2.2. Design**

Options identified at the initial options review were developed to a feasibility design stage within CAD. The designs were developed to a scale of 1:500 as 2D arrangements based on DMRB design standards. Consideration of buildability was provided as comments for each of the options.

### **2.2.3. Traffic Modelling**

A microsimulation traffic model was developed for Junction 13 of the M11 to provide an indication as to if there were any high-level operational issues that may prevent an option from being considered further. The model was developed using available data, including a traffic count undertaken in 2014 and OS Base plans and information on signal timings and junction operation gathered during a site visit.

Microsimulation modelling has not been undertaken for Junction 11 of the M11 as possible schemes at this junction would not have an impact upon local traffic. Nevertheless data on existing queueing at the junction has been used to inform the development of options. This is further outlined in Section 5.4 of this report.

### **2.2.4. Option Review**

An option review workshop between CCC and Atkins was held on 5<sup>th</sup> August to review each of the options assessed and identify any that should not be taken forward to the costing stage. An internal meeting was also held on 12<sup>th</sup> August to record the performance of each of the options considering:

- Can the option be constructed?
- Does it offer journey time savings or increased reliability to buses?
- Does it adversely impact existing vehicular traffic?
- Does it offer wider benefits? and
- What are the key risks and issues?

### 2.2.5. Option Costing

An initial costing exercise was carried out for each of the options remaining following the option review. This was a high level costing based on standard information for construction, combined with professional opinion on additional costs.

## 2.3. Limitations of this Report

The aim of the report was for an initial high-level assessment of the technical implications and costs of providing bus-only slip roads. Due to the need to report at the October cycle of City Deal Joint Assembly and City Deal Executive Board meetings the time available to undertake the assessment was constrained. A number of assumptions have been made in order to provide an initial high-level assessment and these are outlined below:

- Design has been undertaken at a feasibility level only, to inform other assessments and provide an indication on whether construction of the option would be feasible. Further design including 3D design would need to be undertaken should any option be developed following this report;
- Traffic modelling has been undertaken for the immediate Junction 13 of the M11 only. Due to time constraints strategic modelling has not been used to inform this report, however possible strategic effects have been identified where possible based on professional opinion. Further modelling, including strategic modelling would be required should any option be developed following this report;
- A bridge assessment has been undertaken using available information from Highways England. The assessment is not a Structural Review to BD 101/11 and Assessment to BD 21/01 as this was not possible given the tight programme and is beyond the scope of a high-level assessment. Should any option be developed following this report, this level of assessment would be required;
- This report is an initial high-level appraisal and is not WebTag compliant and therefore the level of detail is reduced and any numerical results won't necessarily reflect the real performance of options;
- The report does not include options outside of the restricted geographical area as stated in the City Deal Board instruction and therefore limits options that may be outside of this area;
- The report is commissioned ahead of the A428 consultation and therefore does not consider public or stakeholder engagement; and
- The report is commissioned ahead of the sequential Western Orbital study programme

Further detailed assumptions made within the traffic modelling are outlined in Section 5.3.

## 3. Data Collection and Desktop Study

This section of the report outlines the data collected to inform the development of options to provide bus-only slip roads at Junctions 11 and 13 of the M11. This includes a desktop study of similar schemes in the UK and a site visit to review conditions for buses and general traffic at each junction.

### 3.1. Desktop Study

An initial desktop investigation was undertaken to identify any existing bus-only slip roads within the UK which would provide a basis for design of options for M11 Junctions 11 and 13. The review also aimed to identify whether bus-only slip roads had been considered feasible in other locations.

#### 3.1.1. Existing Bus-Only Slip Roads

Four examples of existing bus-only slip roads have been identified through desktop research and information provided by Highways England.

##### 3.1.1.1. London Luton – Parkway Road to Airport Way

This route is located at London Luton Airport, connecting Parkway Road to Airport Way (A1081), providing a more direct route for buses between the rail station and airport. This slip road serves the rail-air shuttle service from the Luton Airport Parkway rail station to the airport. The road was installed as part of the East Luton Corridor Improvements Scheme. The service runs every 10 minutes until midnight and there is one bus for each arriving train between midnight and 5am. A location plan is shown in Appendix A.

The bus-only slip road in this location originates from Parkway Road close to Luton Parkway Station. It is likely that bus and traffic speeds in this location would be relatively slow. The bus-only slip road merges with a bus lane on New Airport Way, rather than with a general traffic lane. These conditions are not considered to be a good proxy for conditions at Junctions 13 of the M11 where buses may be required to merge with general traffic or high-speed traffic on the M11. However potential options for Junction 11 may involve dedicated bus provision similar to that provided between Parkway Road and Airport Way.

##### 3.1.1.2. M4 Junction 4 to 4a (Heathrow Airport Spur): Bus Lane (Lane 4) and advance signals with bus gate signals

The M4 spur bus lane was Britain's first motorway bus lane. The M4 spur provides general vehicle access to Heathrow Airport. The spur is frequently congested, with queues stretching up to 1.4km back to the M4. The two-way bus lane, opened in 1997 allows buses to avoid these queues. The location of the bus-only lane is shown in Appendix A.

The introduction of the bus lane on the M4 Spur did not reduce the remaining capacity for general traffic. The bus lane runs adjacent to lane 3 of the M4 Spur (on the outside lane of the carriageway). It starts on the spur itself (with appropriate signage) and finishes around 50 metres from the Heathrow access roundabout (Tunnel Road roundabout) at a bus gate. This bus gate allows the bus to enter the roundabout prior to general traffic.

The M4 Spur bus lane is a good example of an existing bus lane in operation in the UK which provides 'visible' priority to buses over general traffic, promoting the use of sustainable modes of travel over the private car.

##### 3.1.1.3. M606 Junction 1 to M62 Bradford: High Occupancy Vehicle (HOV) bypass lane (2+ lane)

A 'high-occupancy vehicle lane' is provided on the M606/M62 junction near Bradford. It is the UK's first motorway carpool lane. The 2.7 km lane scheme is southbound only and allows vehicles with more than one person in the car a fast track onto the M62 eastbound at Junction 26. The location of the HOV lane is shown in Appendix A.

Whilst not specifically a bus lane, buses are able to use the HOV lane to access the M62 eastbound at the junction and is a clear example of a measure promoting the use of sustainable modes of travel over the private car.

#### **3.1.1.4. A52 Brian Clough Way, Nottingham: Bus Lane**

Highways England provided information relating to the A52 Brian Clough Way in Nottingham, which has a bus lane from its junction with Ilkeston Road/Derby Road to its junction with Wollaton Vale. The bus lane is in addition to the two running lanes and run towards the town centre only. The location of the bus-only lane is shown in Appendix A.

### **3.1.2. Proposed Bus-Only Slip Roads**

The desktop review has also considered proposed schemes for bus-only slip roads.

#### **3.1.2.1. A47 Postwick Interchange**

A bus-only slip road was proposed by an objector as part of Alternative Option 6A of the A47 Postwick Interchange Scheme in Norfolk. The proposed westbound merging slip road would extend from the existing Postwick Park and Ride roundabout and connect to the A47. This option was ultimately deemed unviable because it was considered to be an *“unacceptable risk on the safe operation of the A47 trunk road due to predicted queuing onto the mainline”* and had *“a number of design issues which raise safety concerns with elements of highway geometry significantly below design standards”*. One major safety concern was that it would lead to increased likelihood of side swipe conflicts at the junction.<sup>1</sup>

#### **3.1.2.2. Transport for London Blackwall Tunnel to Silvertown Tunnel**

Transport for London (TfL) have also proposed the installation of 4 bus only slip roads between Blackwall Tunnel and Silvertown Tunnel, and the North Greenwich bus station in London, and potentially for commuter coaches serving the Greenwich Peninsula. A bus-only slip road servicing Blackwall Tunnel southbound would be located after the tunnel portal and onto Millennium Way, whilst a northbound bus-only slip road will be provided from Tunnel Avenue to Blackwall Lane Northbound. Silvertown tunnel will have a bus-only slip road from Boord Street to Millennium Way and a second bus-only slip road from Millennium Way to the tunnel approach.<sup>2</sup> These schemes are in the early stages of development and have not been granted planning permission.

### **3.1.3. Summary**

Review of existing bus-only slip road schemes in the UK shows that all existing schemes considered are in operation at airport locations. In these locations they provide a key link between public transport interchanges and prevent buses from being delayed by considerable general traffic queues. However the method for this assessment is to provide a linear improvement adjacent to general traffic congestion instead of providing movement specific priority between different classes of road. Nevertheless the desktop study indicates that bus-only slip roads have been implemented elsewhere in the UK.

Other schemes have also been proposed within the UK. There is evidence that these schemes have led to safety concerns. This suggests that if an option to provide bus-only slip roads at Junction 11 and/or 13 of the M11 was to be taken forward detailed assessment of safety would need to be included in the detailed design.

## **3.2. Utilities Searches**

A utilities search was conducted in order to determine the services running along the M11 Junction 13 Bridge. Services within the bridge are detailed in the full service report included in Appendix B of this report.

## **3.3. Traffic Counts**

The traffic counts used to inform the assessment were collected on Wednesday 18<sup>th</sup> June 2014 as part of the A428 Corridor Study. The M11 on and off-slip junctions were included as part of this wider data collection and has been made available for use in this assessment. Data was collected as a single day Manual Classified Count in 30 minute intervals, supported by two-week Automatic Traffic Counts.

---

<sup>1</sup> <http://www.norfolk.gov.uk/view/NCC144139>

<sup>2</sup> <https://tfl.gov.uk/cdn/static/cms/documents/st-silvertown-tunnel-transport-assessment.pdf>



## 4. Initial Option Review

This section of the report outlines the initial option review. The initial option review led to the generation of a range of options to provide bus-only slip roads at both Junctions 11 and 13 of the M11 at this stage as hand-drawn sketches. These options were discussed at two workshops and any which were outside of the scope of the report or were not feasible for reasons of highway design or traffic impact were discounted.

### 4.1. Initial Scoping

As outlined in Section 2 of this report initial scoping was undertaken at an internal workshop on 16<sup>th</sup> July, followed closely by a Client workshop with CCC on 22<sup>nd</sup> July. Initial plans for all the options considered at this stage are shown in Appendix C and summarised below.

#### 4.1.1. Junction 11

##### 4.1.1.1. Options Taken Forward

Initial option review indicates that the options below are likely to be workable in design terms and meet the overall aims and objectives of this assessment. As a result these options will be further considered during the option assessment stage of this report.

##### Junction 11: Option A

This option provides a bus-only access road running off-line but adjacent to the existing general traffic slip road from the M11 towards Trumpington Park and Ride. This option also provides a fully segregated bus-only access to the Park and Ride site.

##### Junction 11: Option B

This option provides a bus-only access route parallel to the existing off slip and bypasses the existing traffic signals at the end of the slip road. The existing slip-road would be widened to accommodate the extra lane. The bus only access route then continues onto the dedicated Park and Ride traffic lane beyond the junction.

##### Junction 11: Option C

This option provides a bus-only slip road leaving the M11 prior to the existing agricultural bridge (for buses travelling southbound on the M11). It is likely that this option could require widening of the existing agricultural bridge. The segregated bus-only lane could continue to the Park & Ride site.

The agricultural bridge is located 55m upstream from the start of the M11 Junction 11 southbound off-slip and 540m from the stopline at the top of the off-slip. Highway designers present at the workshop indicated that it is not possible to provide a bus-only slip road leaving the M11 south of the agricultural bridge due to the proximity of Junction 11 that meets DMRB standards.

##### 4.1.1.2. Option Discounted

It is important to note that 'discounted' options only means 'discounted within the limited scope of this study'. This study was specifically limited in terms of its brief. As such there may – within the wider City Deal context – be a case for revisiting some of the options discounted within this report as part of the overall scheme development work for the Western Orbital and A428 Cambridge City Deal projects.

##### Junction 11: Option D

This option provides a bus priority measure at the existing M11 Junction to allow buses to move through the junction ahead of general vehicular traffic which would be held back at the signals.

Initial review suggests that this option would not provide any benefit to buses unless a segregated bus lane could be provided at the slip. A bus lane could not be provided at this location without widening and in this case either Option A or Option B would offer greater benefits as buses would have a free flow arrangement. For this reason this option was discounted at the initial option review stage and will not be considered during the option assessment stage of the assessment.

## **4.1.2. M11 Junction 13**

### **4.1.2.1. Options Taken Forward**

Initial option review indicates that the options below are likely to be workable in design terms and meet the overall aims and objectives of the report. As a result these options will be further considered during the option assessment stage of the assessment.

#### **Junction 13: Option 1**

This option provides a bus-only lane eastbound over the M11 on Madingley Road towards Cambridge. No signals are present in this option, allowing the bus to continue forward unobstructed. An introduction of bus detector loops would enable a 'green wave' across the bridge towards Cambridge and the M11 southbound. A new signal controlled junction would be required to the east of the bridge for the M11 southbound on-slip.

#### **Junction 13: Option 2**

Option 2 provides a bus priority measure based on vehicle detection on the eastbound approach to Madingley Road Bridge for buses turning right onto the M11. Buses can be held at the signals to allow traffic coming off the M11 to turn onto Madingley Road and merge into the straight-ahead lane unobstructed. Buses heading eastbound would have priority at the signals over other vehicles. The introduction of bus detector loops to enable a 'green wave' across the bridge towards Cambridge and the M11 southbound. A new signal controlled junction would be installed to the east of the bridge for the M11 southbound on-slip to ensure that traffic does not block back across the bridge preventing the bus gate from operating effectively.

#### **Junction 13: Option 4**

Option 4 requires the construction of a new gyratory at the junction with all-traffic capacity. This would involve a new structure over the M11 to the north of the current bridge. The gyratory would accommodate 3 traffic lanes.

#### **Junction 13: Option 5**

This option provides of a bus-only loop to the north of Junction 13 to bring buses from the Madingley Road Bridge south onto the M11 prior to general traffic joining. In order to prevent buses turning right onto the slip road a bus lane is proposed to run across the bridge and down the loop, unopposed. A total of 4 lanes would run across the bridge (3 eastbound and 1 westbound). The potential for a bus stop to serve Madingley Park & Ride and the Cambridge North-west development was also discussed.

### **4.1.2.2. Options Discounted**

#### **Junction 13: Option 3**

This option provides a segregated bus-only slip road on the off-side of the existing M11 off-slip. This would allow buses on the slip road to by-pass existing traffic queues and reach the signals at the top of the slip road quickly.

At the initial review workshop it was agreed that for this option to provide a real benefit to buses the bus lane would need to extend far to the south of the junction along the M11 for this option to offer any real benefit to buses. This is because during peak periods traffic can queue along the M11 as far back as the Coton junction. Provision of a bus-only lane on the slip only would limit the capacity of the M11 Junction 13 off-slip which would consequently lead to greater congestion on the slip and M11. Highways England also reviewed this option and suggested that it would not be workable. As a result this option was discounted at the initial review stage and will not be considered during the option assessment stage of the assessment.

#### **Junction 13: Option 6**

This option consists of a new structure to the north of Junction 13 for buses to join the M11 prior to general traffic in a similar manner to Option 5.

Initial option review recognised that this could offer wider benefits if provided with one of the options currently being reviewed as part of the A428 Cambridge City Deal Study. However this option was considered out of scope for this report, based on the requirements outlined by the City Deal Joint Assembly and City Deal Executive Board and as a result it will not be considered in the option assessment stage of the report.

#### **Junction 13: Discounted Option 7**

This option consists of new bus-only slip roads onto the M11 at the location of the existing Coton footbridge.

Initial option review recognised that this could offer wider benefits if provided with one of the options currently being reviewed as part of the A428 Cambridge City Deal Study. However this option was considered out of scope for this report, based on the requirements outlined by the City Deal Joint Assembly and City Deal Executive Board and as a result it will not be considered in the option assessment stage of the report.

## **4.2. Summary**

The initial option review generated 3 options for Junction 11 and 4 options for Junction 13 which were considered suitable for further assessment in the option assessment stage of the report.

DRAFT

## 5. Option Development and Assessment

This section of the report outlines the development and assessment of the initial options. This includes feasibility highway design and traffic modelling. In addition the results of an assessment of the bridge crossing of the Junction 13 of the M11 are detailed.

### 5.1. Bridge Assessment

An assessment of the M11 Junction 13 Bridge has been conducted as part of this report. A separate technical note, outlining the detailed findings, is provided in Appendix D of this report. The bridge assessment concluded that:

- Widening of the carriageway across the M11 Junction 13 Bridge is feasible within the existing structure providing that the lane width across the 3 lanes does not exceed 10.95 m (3 x 3.65m lanes) and that the lanes remain in the same location on the bridge deck;
- The carriageway can be widened to 12.9-13.65m, with the diversion of services from one side of the bridge to the other (i.e. either all services run through the northern service trench or all services run through the southern service trench. This option would require further assessment due to the increase in width beyond 3 x 3.65m lanes (which has an effect on bridge loading); and
- By diverting the services from the bridge entirely, the carriageway width can be widened to 15.3m, leaving the verges at a minimum width of 0.6m. This would allow the provision of 4 lanes across the carriageway. This option would require significant further modelling and assessment. A new bridge or extension to the existing bridge would be required to accommodate services and non-motorised users under this scenario.

The results of the bridge assessment support the development of any of the options from the initial option development. However the level of modifications required to the bridge will vary for each option as follows:

- Options 1 and 2 can be accommodated with minor changes to the existing carriageway. Lanes could either remain as existing or be modified to provide 3.65m lanes (to meet highway standards) with minor works and no static diversions required;
- Option 4 would require a new bridge to be constructed to the north of the existing structure. This is feasible with no modifications to the existing structure (or with minor modifications to increase lane width as described for Options 1 and 2 above); and
- Option 5 would require the provision of four lanes across the bridge (three general traffic lanes and one bus-only lane). This would require a total minimum width of 14.2m (3.5m bus lane, 0.6m reservation, 3.5 metre traffic lane and two further 3.3m traffic lanes) and is only possible with the complete diversion of services from the bridge.

### 5.2. Design

Feasibility design drawings of all options are presented in Appendix E of this report. These have been designed in accordance with DMRB. This section of the report outlines the assumptions and notes made during the design of each option in turn. It has been assumed that any land required to accommodate these works would be available and that existing pedestrian crossing facilities would be maintained. A detailed design note is presented in Appendix F.

#### 5.2.1. Junction 11: Option A

The current layout of the roundabout was maintained, however the length of slip road was limited by the distance from the adjacent off-slip. The segregated bus lane that has been assumed to be bus only, would provide access to the P&R site. There is potential for this to be made an all-traffic lane to the P&R.

Further work would need to consider appropriate signage to indicate the bus only lane. A more detailed assessment of the impact of the existing queuing at this junction would also be advised.

### **5.2.2. Junction 11: Option B**

The current layout of the roundabout has been maintained and the slip-road widened to provide a bus-only slip exiting earlier. There is potential for this to be made an all-traffic lane to the P&R.

Further work would need to consider appropriate signage to indicate the bus only lane. A more detailed assessment of the impact of the existing queuing at this junction would also be advised along with assessment of the pedestrian / cycle infrastructure.

### **5.2.3. Junction 11: Option C**

The design of Option C progressed following the initial option review. Iterations of the design for a bus-only slip road and escape lane, for general traffic movements made into the bus lane in error, determined that space was not available to achieve this prior to or after the agricultural bridge. As a result the final design extends the off-slip at Junction 11 for all traffic to the north of the agricultural bridge, with a bus-only slip road branching from the extended off-slip. As the bus-only lane travels adjacent to the off-slip the need for an escape lane is removed.

In the event that this option is progressed, further assessment would be required on the widening of the agricultural bridge and a new structure to accommodate a two lane slip-road at the location of the existing agricultural bridge. Further work would need to consider appropriate signage to indicate the bus only lane.

### **5.2.4. Junction 13: Option 1**

The design process involved reinstating the previously removed elongated bus lane junction bypass island. If taken forward, the reason behind the original removal would have to be determined. Consideration would also need to be made of the existing narrow lane width across the bridge, in order to meet DMRB standards.

### **5.2.5. Junction 13: Option 2**

As with Option 1, the reason behind the removal of the elongated bus lane junction bypass island would need to be determined. In addition, further structural assessment and consultation with statutory undertakers is required at detail design phase to determine the nature of the bridge widening.

### **5.2.6. Junction 13: Option 4**

The new structure has been located at a suitable distance to allow for future expansion of the junction as well as accommodating 3 x 3.65m lanes. The nature of the high-level design would allow the majority of the junction to be built off-line therefore reducing the disruption to the existing traffic network. Further consideration of this option would need to take into account the location of stats and the existing GVC.

### **5.2.7. Junction 13: Option 5**

Further consideration of this option at detailed design stage would need to take into account the location of a gas pipeline which has been identified close to the proposed location of the on-slip. Effective signage would need to be provided to ensure that drivers on the M11 are warned of slow merging traffic.

## **5.3. High Level Modelling Assessment: Junction 13**

Options to provide bus-only slip roads at Junction 13 of the M11 are likely to have considerable effects on existing traffic using the junction. As a result the impact of options for this junction have been assessed using traffic modelling. The results of this modelling are described in this section of the report, with a Technical Note, presented in Appendix G providing further detail.

### **5.3.1. Site Visit**

The site visit on the 3<sup>rd</sup> August identified that Junction 13 operates in two stages (A1303 traffic in one stage and slip road traffic in a second stage) and that the bus gate indicated on OS base plans for eastbound buses entering Junction 13 is not in operation (i.e. the bus signal mirrors the A1303 eastbound signal and does not offer buses any form of priority). The phasing of the traffic signals was also observed, so that this could be replicated where possible within the model. It was noted that since the site visit occurred outside DMRB Neutral Traffic times, during school holidays, the observations may not be representative of typical traffic conditions.



### 5.3.2. Method and Assumptions

Microsimulation modelling has been selected as an appropriate method for conducting an initial high-level assessment of the options for M11 Junction 13. The process followed to develop the microsimulation model is summarised below.

### 5.3.3. Base Model

A 2014 base model was developed on which to test the options for the junction. The performance of Junction 13 is sensitive to the performance of the Park and Ride access junction on Madingley Road and other junctions within the corridor. Therefore it is recommended that if any of the options are taken forward more detailed modelling of adjacent junctions would need to be considered as part of any further assessment of these options.

To provide a suitable validation of the base model, a number of assumptions were made. These assumptions are related to the limited scope of the model and the availability of information at the time for this assessment, namely:

- Additional traffic demand was added at the western end of Madingley Road to the observed stopline traffic counts at M11 junction 13 to replicate the observed length of queues;
- Site observations suggest that a key cause of the queues at Junction 13 are the tailbacks from the adjacent P&R junction. Assumptions have been made regarding the operation and timing of the traffic signals and pedestrian crossing; and
- No signal plan information was made available for M11 junction 13. A vehicle actuated signal control, reactive to gaps in flow, has been derived to provide a best estimate of the on-street operation of the traffic signals.

### 5.3.4. Option Modelling

The four options taken forward from the Initial Option Review of Junction 13 were modelled within VISSIM (Options 1, 2, 4 and 5). The performance of each of these options is detailed in the technical note provided as a separate document and summarised below.

#### Option 1

This option causes little change to the eastbound travel time from Madingley Mulch to Coton for general vehicular traffic, but does improve the bus travel time from Coton to the P&R. This is because the option provides benefits to buses at the stopline (bus priority), but cannot offer benefits to buses waiting in a queue to reach the stopline.

#### Option 2

This option operates in a very similar manner to Option 1 with the only difference for buses being they may face a red light when bus priority is unable to react immediately (i.e. when an opposing stage is yet to reach its minimum green). This offers improved safety of the merge movement between buses and general traffic on the M11 Bridge however it does not reduce the overall performance of the junction.

#### Option 4

This option has been tested as a priority junction, however there is an opportunity to signalise the junction if required. This option gives priority the eastbound flow from Madingley Road as there is no conflict when entering the roundabout, providing free flowing access to the Park and Ride site. The M11 off-slip right turners also have priority into the offside lane, but then must access the middle lane on the northern section of the circulatory to continue into the City, or offside lane to enter the Park and Ride site.

The middle lane is heavily utilised by the Madingley Road flow and therefore lane changing becomes difficult for the M11 flow and this results in queues tailing back on the off-slip. This also restricts the priority given to buses either turning right on to the M11 (which would use the nearside lane) or those entering the Park and Ride site (using the offside lane), since the access to these lanes may be restricted by the queue in the middle lane, or by vehicles attempting to merge into this lane and blocking the offside or nearside lanes.

It should be noted that the influence of the adjacent Park and Ride junction is the primary determining factor for the performance of this option. While the option in isolation may improve the operation of Junction 13 itself, restrictions elsewhere in the network may not allow the junction to operate to its ultimate potential. Strategic modelling would be required to reflect the impact of other junctions on Junction 13 of the M11 and this is outside the scope of this report.

### Option 5

This option operates in a similar manner to the other options, helping to improve reliability for buses once they reach the bus lane 300m west of the M11 off-slip junction. Buses still have to travel through the queue approaching the M11 off-slip, so the majority of bus delay still remains and journey times do not improve significantly. The operation of the junction for general traffic is largely unaffected, however the merge point for buses is moved to east of the overbridge, giving rise to slight congestion at this point for buses accessing the Park and Ride site.

### Summary

The high-level modelling work undertaken does not highlight any specific issues that would prevent any of the above options being taken forwards for further consideration at this stage. The performance of any option would be ultimately reliant on the conditions and performance of the adjacent network and junctions. It is important to note that, with the exception of Option 4, none of the options proposed have the potential to improve these existing queues. Unless these queues are bypassed by public transport infrastructure or mitigated, buses will remain delayed as they are also held in the queues until they reach the bus lane approximately 300m on approach to the junction.

It is therefore highly important that further work is undertaken to consider the full impacts of any option in the context of the wider corridor as a whole using a more holistic and detailed modelling approach, as the ultimate performance of any option would be influenced by a better understanding of the performance and interactions of adjacent junctions and clarification over the assumptions stated above.

## 5.4. Traffic Flow Analysis: Junction 11

Further analysis of the design of Junction 11 Options A and B has been conducted. Based on the AM and PM average speeds on the southbound off-slip shown in Appendix H, it is predicted that the two options will not provide a large benefit in terms of bus journey time savings as buses have the potential to be held up on the slip before entering the bus-only lane.

The AM peak Trafficmaster data shows that in the traffic has an average speed of 10-20mph. The PM peak traffic an average speed of 20-30mph along the length of the slip. Given the queues shown above, it is considered that Options A and B may offer little benefit to buses in terms of journey time reliability.

## 6. Option Costing

All options considered within the option development and assessment stage have been the subject of a high-level assessment of the cost of implementation. A provisional cost has been prepared based on feasibility drawings and derived from the latest competitive rates taken from Atkins' records to indicate an outline cost for the proposed works. The costs do not include land acquisition, service diversions and temporary traffic management measures. The results are summarised in Table 6-1. The full costing details are shown Appendix I.

It is important to note that these costs are indicative and will need to be updated as further detail becomes available. Options have been provided as a range of costs. For Options C, Option 4 and Option 5 the construction of new bridges within the options produces a wider range of costs. This accounts for the fact that construction of new bridges, particularly over a motorway carriageway, has the potential to involve complicated construction methods.

**Table 6-1 Option Costing**

Option	Cost (Approximate)
J11 Option A	£1.2 million
J11 Option B	£800,000
J11 Option C	£4.7 million - £5.7 million
J13 Option 1	£150,000- £425,000*
J13 Option 2	£150,000- £425,000*
J13 Option 4	£22 million - £42 million
J13 Option 5	£4.2 million – £7.2 million

\*The lower end of this range does not include widening of the existing Junction 13 Bridge to provide 3.65m lanes to meet DMRB standards. The upper end of the range allows for widening to meet DMRB standards.



## 7. Option Review

Option review was undertaken at an internal meeting on 13<sup>th</sup> August, involving bridge engineers, highway designers and traffic modellers. The aim of the option review was to identify the benefits and constraints of each of the options. The option review does not measure the relative performance of each of the options against the others. It should be recognised that the options may only provide benefits in the peak hours only where congestion would otherwise delay buses.

The option review considered the following:

- Can the option be constructed?
  - This considered whether the design process identified any reasons why the option could not be constructed. Where the design process identified that the option could be constructed, options requiring further mitigation or design/safety consideration were identified;
- Does it offer journey time savings or increased reliability to buses?
  - This considered whether the microsimulation modelling identified journey time savings for buses within the option. Where journey time savings were identified options which would also offer increased reliability were also identified;
- Does it adversely impact upon existing vehicular traffic?
  - This considered whether the microsimulation modelling identified impacts upon existing traffic queueing or journey times for the option. Where impacts on existing traffic were identified options which would produce major impacts on existing traffic flows and queueing were identified;
- Does it offer wider benefits?
  - This considered whether the option would offer wider benefits linked to proposed developments, options currently being considered within the A428 corridor study or options currently being considered within the Western Orbital study; and
- Key risks and issues:
  - This identifies whether any key risks or issues were identified during the option assessment stage.

The results of the option review are shown in Table 7-1.

Table 7-1 Option Review

Option	Cost	Can it be constructed?			Does it offer journey time savings to buses?			Does it adversely impact vehicular traffic?			Does it offer other/wider benefits?		Key risks and issues
		No	Yes (with mitigation)	Yes	No	Yes	Yes (and improved reliability)	No/ positive impact	Minor	Major	Yes	No	
J11 Option A – Slip off-line at junction	£1.2million		✓ M11 off-slip may require extension to meet design standards during detailed design.			✓ Benefits are limited as existing queueing on the off-slip extends onto the M11 in peak periods (see Section 5.2).		✓				✓ Direct access to P&R	Enforcement and signage of bus-only lane needs further consideration. Land acquisition should be considered at detailed design.
J11 Option B – slip on-line at junction	£800,000			✓ with embankment widening.		✓ Benefits are limited as existing queueing on the off-slip extends onto the M11 in peak periods (see Section 5.2).		✓				✓	Land acquisition should be considered at detailed design. Enforcement and signage of bus-only lane needs further consideration. Option to make bus lane all vehicle access to Park & Ride.

Option	Cost	Can it be constructed?			Does it offer journey time savings to buses?			Does it adversely impact vehicular traffic?			Does it offer other/wider benefits?		Key risks and issues
		No	Yes (with mitigation)	Yes	No	Yes	Yes (and improved reliability)	No/ positive impact	Minor	Major	Yes	No	
J11 Option C – slip from agricultural bridge	£4.7-5.7 million		✓ new bridge required. Land take may be considerable.				✓ as buses are removed from the M11 off-slip prior to existing queues.	✓ positive due to removal of existing bus lane on A1309 leading to increased capacity and potential reduction in blocking back to M11.			✓ A bus stop could be provided in Trumpington Meadows development Direct access to P&R avoiding Hauxton Road Junction.		Considerable land acquisition may be required for this option. Enforcement and signage of bus-only lane needs further consideration.
J13 Option 1 – bus only lane – no signals	£150,000-425,000			✓ fits within existing carriageway. Minor improvement in journey time.		✓ improvement in journey time across the junction however buses remain in A1303 queues on approach.		✓				✓	Conflict of right turning traffic with bus lane (safety issue) – needs to be considered further in detailed design.

Option	Cost	Can it be constructed?			Does it offer journey time savings to buses?			Does it adversely impact vehicular traffic?			Does it offer other/wider benefits?		Key risks and issues
		No	Yes (with mitigation)	Yes	No	Yes	Yes (and improved reliability)	No/ positive impact	Minor	Major	Yes	No	
J13 Option 2 – bus only lane with signals	£150,000-425,000		✓ widening provides no capacity benefit but may provide safety benefit.	✓ without widening.		✓		✓ widening provides no capacity benefit but may provide safety benefit.				✓	Existing lane width is substandard.
J13 Option 4 – new gyratory structure	£22-42 million		✓ New structure required across M11.			✓ eastbound buses are required further.		✓ potential to modify lane arrangement to improve conditions for particular movements at the junction.			✓ potential access to development and P&R site. Wider strategic benefits – fits with A428 Cambridge City Deal Study.		Modifications to P&R junction may be required Strategic assessment required due to potential to change strategic movement across the City. Land Acquisition Cycle and Pedestrian Routes would need further consideration in detailed design.

Option	Cost	Can it be constructed?			Does it offer journey time savings to buses?			Does it adversely impact vehicular traffic?			Does it offer other/wider benefits?		Key risks and issues
		No	Yes (with mitigation)	Yes	No	Yes	Yes (and improved reliability)	No/ positive impact	Minor	Major	Yes	No	
J13 Option 5 – bus only loop to the north of existing structure	£4.2-7.2 million	✓	✓ Bridge widening to 4 lanes may not be possible within existing structure. All services require diversion. New structure to support pedestrian and cycle movements may be required.				✓ eastbound buses are required to travel further however reliability is increased.	✓			✓ Potential stop for Cambridge North West Development and access to the P&R site.		Distance between bus and traffic slips may lead to safety concerns and requires consideration at detailed design. Structural assessment of bridge required Secondary structure for pedestrians and/or cyclists and stairs relocation likely to be required.

## 8. Summary and Conclusions

### 8.1. Summary

Atkins were commissioned by CCC to produce an initial and high-level appraisal of the technical implications and costs of creating bus-only slip roads:

- 1) At M11 Junction 13: when turning off the A1303 (going east) onto the M11 (going south);
- 2) At M11 Junction 13: creating a bus lane alongside the existing slip road off the M11, which would get priority treatment at the traffic lights; and
- 3) At M11 Junction 11: turning off the M11 (going south) between the existing farm and footbridge and the existing slip-road, then going round the corner of the farmland at Trumpington Meadows, running parallel to (and west of) Trumpington Road, and entering the Trumpington Road Park and Ride thence joining up to the Guided Busway.

The aim of this report is to inform a report to the October cycle of City Deal Joint Assembly and City Deal Executive Board meetings.

#### 8.1.1. Initial Options Review

The assessment commenced with a review of the potential options to provide bus-only slip roads at each of the junctions. A workshop attended by CCC and Atkins designers, traffic modellers and bridge engineers identified any options which were not considered workable and these options were not progressed to the next stage of the assessment. The initial option review generated 3 options for Junction 11 and 4 options for Junction 13 which were considered suitable for further assessment in the option assessment stage.

#### 8.1.2. Option Development and Assessment

Option development and assessment followed an iterative process with bridge review, highway design and traffic modelling being undertaken simultaneously. This allowed each aspect to be informed by the others, for example the traffic modelling identified that a certain lane arrangement maximised the performance of the option, therefore this could be fed into the option design.

#### 8.1.3. Option Costing

All options considered within the option development and assessment stage were the subject of a high-level assessment of the cost of implementation. A provisional cost has been prepared based on feasibility drawings and derived from the latest competitive rates taken from Atkins' records to indicate an outline cost for the proposed works.

#### 8.1.4. Option Review

Option review was undertaken at an internal meeting on 13<sup>th</sup> August, involving bridge engineers, highway designers and traffic modellers. The aim of the option review was to identify the benefits and constraints of each of the options. The option review does not measure the relative performance of each of the options in comparison to the others.

### 8.2. Conclusions

This report has identified that a number of options are available to provide bus-only slip roads at Junctions 11 and 13 of the M11. Costings and concept designs have been provided for each option.

#### 8.2.1. Junction 11

The provision of a bus-only slip road at the existing M11 southbound off-slip (Option A and Option B) is technically feasible within DMRB design standards, at a relatively low cost. However the existing junction experiences queuing on approach to the M11 off-slip during peak periods and the provision of a dedicated bus-only slip road in this location could offer limited journey time savings for buses as they would be subject to any existing traffic queues on approach to the junction.

The provision of a bus-only slip road exiting the M11 prior to the agricultural bridge is considered outside the scope of the initial recommendations of this report. However this option was progressed as it would be the only way to provide a segregated bus-only slip road which commenced before existing traffic queues at the

junction (a similar option could not be provided to the south of the bridge as it would not meet DMRB design standards). It would be a relatively expensive scheme to construct, however this option would provide better journey time reliability and improved journey times for buses as they would leave the M11 prior to any traffic queues on approach to the junction.

In summary, minor modifications to the existing layout of Junction 11 of the M11 to provide bus-only slip roads could offer small improvements to journey times for buses. This is based on a number of assumptions and as the report provides a high-level of assessment a number of further assessments would be required to provide certainty. In order to provide greater benefits to journey times and reliability the bus-only slip is required to leave the M11 before the location of the existing agricultural bridge to the north of the junction bypassing existing traffic queues on the M11 on approach to Junction 11, which is a relatively high cost option.

### **8.2.2. Junction 13**

Modifications to the existing arrangement across the bridge at M11 Junction 13 (Options 1 and 2) would provide a small improvement to journey times for buses, allowing them to turn right onto the M11 ahead of vehicular traffic. These options could be implemented at relatively low cost. However buses approaching the junction would still be subject to existing queueing on approach, particularly on the M11 off-slip and A1309 (although a bus lane is provided for 300m on approach to the junction). The journey time benefit crossing the bridge is considered to be minimal compared to the time spent in these existing queues, which would not be reduced under Option A or Option B.

The provision of a gyratory system with a new bridge structure at the junction (Option 4) has the potential to offer improvements to buses in terms of journey time savings and increased reliability. A gyratory system also offers flexibility for the future of the junction as new junction arms could be added in the future if required. It could also offer the potential to benefit vehicular traffic, depending on the junction layout used. However this option would be very costly to implement and any benefit may be limited due to the operational performance of existing adjacent junctions.

The provision of a bus-only loop to the north of Junction 13 to bring buses from the Madingley Road Bridge south onto the M11 prior to general traffic joining would improve journey times for buses, despite the increased travel distance provided by the bus-only loop. However this option would be very costly to implement and further detailed assessment would be required on the safety of buses merging onto the M11.

In summary, minor modifications to the existing layout of Junction 13 of the M11 to provide bus priority across the existing bridge structure would offer limited journey time savings for buses. Major interventions in the form of a new gyratory or bus-only loop at the junction have the potential to offer greater journey time savings and/or increased reliability for buses, however may be limited in their benefit by the performance of the adjacent sections of the road network. They would also offer greater flexibility for future growth, however these options would be costly to construct.

# Appendix A. Examples of Existing Schemes

## A.1. Luton Airport

DRAFT



## A.2. Heathrow Spur

DRAFT

### **A.3. M606 Bradford**

DRAFT

#### **A.4. Brian Clough Way, Nottingham**

DRAFT

## Appendix B. Utilities Searches Report

DRAFT

## Appendix C. Initial Option Plans

DRAFT

# Appendix D. Bridge Assessment Technical Note

DRAFT

## Appendix E. High-level Drawings

DRAFT

## Appendix F. Design Process Note

DRAFT



## Appendix G. Modelling Technical Note

DRAFT

## Appendix H. Traffic Flow Analysis

DRAFT

# Appendix I. Costings Summary

DRAFT

**Rebecca Crowther**

Atkins  
Unit 5 Wellbrook Court  
Girton  
Cambridge  
CB3 0NA

**Rebecca.crother@atkinsglobal.com**  
**01223814195**



This page is left blank intentionally.

# Agenda Item 7



**Report To:** Greater Cambridge City Deal Executive Board

1 October 2015

**Lead Officer:** Chris Malyon, Chief Finance Officer Cambridgeshire County Council

---

## **Greater Cambridge City Deal Financial Monitoring**

### **1. Purpose**

- 1.1 The primary purpose of this report is to provide the Executive Board with the financial monitoring position for the period ending 31<sup>st</sup> August 2015. The report also seeks to facilitate a discussion regarding the future utilisation of the uncommitted resources within the non-project resource pool through the establishment of a framework upon which proposals can be evaluated.

### **2. Recommendations**

- 2.1 It is recommended that the Executive Board:-
- a) Note the financial position as at 31<sup>st</sup> August 2015;
  - b) Agree to the funding of the on-going revenue commitments, as set out in paragraph 4 for the five years of phase 1 of the Programme;
  - c) Agree the proposed framework for considering new proposals to be funded from the non-project resource pool.

#### **Recommendations from the Joint Assembly**

The Joint Assembly supported the recommendations set out above.

### **3. Reasons for Recommendations**

- 3.1 The Executive Board will be receiving regular financial monitoring reports that set out expenditure against budget profiles as this is a general “yard stick” of progress on implementation of both programme and non-project activity. The recommendations also provide an opportunity for the Executive Board to establish a framework against which future proposals that are to be resourced from the non-project resource pool are evaluated.

### **4. Background**

- 4.1 On 28<sup>th</sup> January 2015 the Executive Board agreed the capital programme for the first five years of the City Deal Partnership as set out below:-



<b>Project</b>	<b>£m</b>
Milton Road Bus Priority	<b>23.04</b>
Madingley Bus Priority	<b>34.56</b>
Histon Bus Priority	<b>4.28</b>
A428/M11 Bus Segregation	<b>24.48</b>
City Centre Improvements/Cross City Cycle Improvements	<b>22.66</b>
A1307 Corridor Including Bus Priority	<b>39.00</b>
Chisolm Trail	<b>8.40</b>
Year 1 to 5 Pipeline Development	<b>10.60</b>
Year 6 to 10 Programme Development	<b>9.00</b>
Programme Management and early scheme development	<b>4.50</b>
<b>Total</b>	<b>180.52</b>

4.2 At the subsequent meeting in March the Board agreed to the pooling of a proportion of the New Homes Bonus (NHB) received by the three local authorities appertaining to the City Deal area. The report highlighted that there was a degree of uncertainty around whether NHB would survive the forthcoming Comprehensive Spending Review (CSR). It was therefore agreed to adopt a relatively prudent approach to the utilisation of this pooled resource and not to exceed commitments beyond the availability of the relative NHB for 2015/16.

4.3 The Executive Board therefore agreed to fund the following expenditure from the non-project pool.

<b>Activity</b>	<b>Budget £000</b>
Programme Central Co-Ordination Function	150
Strategic Communications	60
Economic Assessment	10
Smarter Greater Cambridge	20
Inward Investment & Account Management	60
Housing	200
<b>Total</b>	<b>500</b>

4.4 A commitment was also made to agree a forward funding commitment against these items for 2016/17. Some of the items will of course be required throughout the duration of phase 1 of the City Deal programme. The "Total" column below has therefore been included in order to project forward the potential balance within the current pool (ie excluding further contributions). Given the on-going nature of these activities the Executive Board is asked to confirm their funding for Phase 1 of the Programme in order that the resources that are available for other projects can be clearly identified.

<b>Activity</b>	<b>2015/16 £000</b>	<b>2016/17 £000</b>	<b>Total £000</b>
Available Funding	4,586	4,086	4,586
Programme Central Co-ordination Function	150	150	750
Strategic Communications	60	60	300
Economic Assessment	10	10	50

Smarter Greater Cambridge	20	20	40
Inward Investment & Account Management	60	90	170
Housing	200	200	400
<b>Total Budget</b>	<b>500</b>	<b>530</b>	<b>1,710</b>
<b>Funding to be carried forward (see note below)</b>	<b>4,086</b>	<b>3,556</b>	<b>2,876</b>

- 4.5 In addition the Executive Board considered a further proposal on the establishment of a City Deal Skills Service at the subsequent meeting in June. The Executive Board agreed to adopt the model of the Skills Service and its governance as set out in the paper and requested officers establish it so that it can start work at the beginning of the next academic year (September 2015). The annual operating cost of the service was set out in the paper in the sum of £255,956.
- 4.6 In the first year, the service will also require start-up costs which will include basic equipment such as laptops, phones, stationery. It is expected that those working in the service will operate flexibly and generally not have an office base so no costs for that have been included.
- 4.7 Funding for the service will come from a variety of sources. The Enterprise Partnership has agreed to contribute £50,000 per year. The County Council can contribute one post in kind valued at £50,000, and efficiencies by joining the service up with the existing Skills Service operated by the Enterprise Partnership will generate savings of £25,000. The net cost expected to be met by the City Deal pooled funding is therefore £130,956.
- 4.8 Bringing together all the items that have been approved outside of the programme the revenue budget for the financial year ending 31<sup>st</sup> March 2016 therefore is as set out in the table below:-

<b>Activity</b>	<b>Budget £000</b>
Programme Central Co-Ordination Function	150
Strategic Communications	60
Economic Assessment	10
Smarter Greater Cambridge	20
Inward Investment & Account Management	60
Housing	200
Skills	131
<b>Total</b>	<b>631</b>

## **5. Financial Position for the period ending 31<sup>st</sup> August 2015**

- 5.1 To date the projects that are core to the delivery of the City Deal objectives, and for which the £100m commitment from the Government has been received, have been termed for budgetary purposes as 'the programme'. The costs that are ancillary to the programme have been termed as 'non-programme costs'. Going forward it would be more appropriate to use the terms revenue and capital. This would not prevent the Board from agreeing the utilisation of any element of the resource pool to support a project of a capital nature. The following paragraphs therefore set out the current financial position of both revenue and capital for the period ending 31<sup>st</sup> August 2015.

## 5.2 Capital

5.2.1 Attached as an Appendix to this report are programme costs incurred to the end of August 2015. An attempt has been made to profile the expenditure over the five years of the programme but at this point the sums are relatively indicative. Project leads will continue to work on refining these profiles in order that forward projections of expenditure become more robust.

5.2.2 A summary of the expenditure as at the end of August is set out in the table below:-

<b>Project Description</b>	<b>Budget to date £</b>	<b>Expenditure to date £</b>	<b>Variance £</b>	<b>2015-16 Budget £</b>
Histon Road Bus Priority	120,550	65,272	55,278	183,850
Milton Road Bus Priority	134,700	75,414	59,286	203,400
Chisholm Trail	48,000	21,893	26,107	320,000
A428 to M11 Bus Priority	50,000	375	49,625	270,000
Madingley Road Bus Priority	50,000	0	50,000	270,000
City Centre Capacity Improvements	124,000	181,090	-57,090	194,386
A1307 Bus Priority	133,586	59,323	74,263	262,350
Cross-City Cycle Improvements	7,500	16,278	-8,778	96,000
Western Orbital	23,000	56,938	-33,938	130,000
City Deal	0	2,384	-2,384	0
<b>Total</b>	<b>691,336</b>	<b>478,967</b>	<b>212,369</b>	<b>1,929,986</b>

## 5.3 Revenue

5.3.1 Very little revenue expenditure has been incurred to date. Although a full year provision was made for budgetary purposes for a number of activities it was always known that the full year impact would not be incurred in 2015/16. This is partly due to recruitment timelines, partner organisation governance processes, and lead-in times for some activities. However as the profile of expenditure could not be estimated at the point of agreeing the budget, a full year affect was provided for with an expectation that such funding would be carried forward to support the on-going delivery of these activities.

5.3.2 The actual expenditure incurred as at the end of August is as follows:-

<b>Budget Line</b>	<b>Description</b>	<b>Actual to 31<sup>st</sup> August £</b>
Programme Co-ordination	Project Management	16,876
Miscellaneous	Meeting Costs	645
<b>Total</b>		<b>17,521</b>

## 6. Resource Pool Resource Availability

6.1 The table in section 4.4 sets out the potential available resources from the existing resource pool as agreed in the March budget report. The subsequent decision to fund the net cost of the City Deal Skills programme as highlighted in section 4.8 (in the sum of £654,780 over the period of phase 1 of the programme) results in a residual resource available of just in excess of £2.2m. Although some minor costs have been incurred, for which no specific budgetary provision existed, there will be other savings

that have arisen from the delay in various activities such as staff recruitment that will negate these costs.

- 6.2 The above resource assumes that no further New Homes Bonus contributions will be made to the pool. This position will be reviewed following the outcome of the forthcoming CSR and local finance settlement. Any funding beyond the 2015/16 commitment will therefore be subject to the relevant budget decisions that will need to be taken by the three councils in light of resource constraints and relative priorities within their respective budget processes.
- 6.3 The Executive Board could however consider how it might wish to utilise the residual resource that is currently available whilst being mindful to retain an element of contingency for any projects that could arise in the coming four years.
- 6.4 Although the unallocated sum within the pool is available it is important to ensure that this is not seen as 'free' money. This is a resource made available by all three local authorities and as a result other activities have not been funded in order to facilitate the outcomes and aspirations that were set out in the City Deal proposal. It is therefore important that resources are allocated to activities that support those outcomes.
- 6.5 The following activities could be used as an aide memoire by the Board during their deliberations on this issue. Whilst resources have already been allocated to these activities, should the Board give some steer as to their potential priorities, Officers could develop a range of options for further consideration:-
- Economic assessment
  - Communications
  - Smart/digital
  - Economic development
  - Finance
  - Governance
  - Housing
  - Infrastructure programme
  - Strategic planning
  - Skills
- 6.6 The critical point must be that any investment by the Executive Board must be in an activity relevant to facilitating or pursuing the growth of the high value Greater Cambridge economy, and developing streamlined decision making, consistent with the principles of the City Deal. The above is not an exclusive schedule but is intended to support the development of a set of criteria against which resources can be allocated.
- 6.7 The Executive Board have the ability to consider at length the potential options available to them as the current unallocated is retained to support the objectives of the City Deal Programme. It is important however not to over commit the available resource until such time as the potential for future funding has been clarified. An update on the potential pool going forward will be presented to the Executive Board following the outcome of the Comprehensive Spending Review is known.

## **7. Implications**

- 7.1 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 there are no significant implications.

## **8. Background Papers**

- a) Capital Programme report at January Executive Board meeting
- b) Partnership Budget report at March Executive Board meeting

**Report Author:** Chris Malyon, Chief Finance Officer  
Cambridgeshire County Council  
01223 699796

Project Description	Works budget	Expenditure (Cumulative)													
		Spend	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Out-turn
City Deal - Histon Rd Bus Priority	-	Profile	4,400	8,750	25,300	35,400	46,700	9,500	13,500	14,200	5,900	8,400	7,400	4,400	183,850
		Actual	0	0	0	34,105	65,272	0	0	0	0	0	0	0	0
City Deal - Milton Rd Bus Priority	-	Profile	4,400	9,700	29,600	39,500	51,500	10,600	14,900	17,100	5,900	8,400	7,400	4,400	203,400
		Actual	0	0	0	40,343	75,414	0	0	0	0	0	0	0	0
City Deal - Chisholm Trail	8,400,000	Profile	0	0	14,000	16,000	18,000	30,000	32,000	36,000	39,000	42,000	45,000	48,000	320,000
		Actual	0	12,000	12,000	18,516	21,893	0	0	0	0	0	0	0	0
City Deal - A428 to M11 Bus Priority	-	Profile	5,000	10,000	10,000	10,000	15,000	15,000	20,000	35,000	20,000	40,000	40,000	50,000	270,000
		Actual	0	0	0	375	375	0	0	0	0	0	0	0	0
City Deal - Madingley Rd Bus Priority	-	Profile	5,000	10,000	10,000	10,000	15,000	15,000	20,000	35,000	20,000	40,000	40,000	50,000	270,000
		Actual	0	0	0	0	0	0	0	0	0	0	0	0	0
City Deal - City Centre capacity improvements	194,386	Profile	0	12,000	30,000	40,000	42,000	35,000	19,000	10,000	6,386	0	0	0	194,386
		Actual	0	0	0	73,560	181,090	0	0	0	0	0	0	0	0
City Deal - A1307 Bus Priority	262,350	Profile	0	0	57,583	39,707	36,296	6,539	14,689	28,146	12,834	33,079	33,477	0	262,350
		Actual	0	0	18,639	18,639	59,323	0	0	0	0	0	0	0	0
City Deal - Cross City Cycle Improvements	4,000,000	Profile	0	0	1,000	2,500	4,000	5,500	7,000	9,000	11,000	15,000	18,000	23,000	96,000
		Actual	0	0	0	16,278	16,278	0	0	0	0	0	0	0	0
City Deal - Western Orbital	-	Profile	2,000	2,000	2,000	15,000	2,000	15,000	30,000	15,000	15,000	2,000	15,000	15,000	130,000
		Actual	0	0	0	47,455	56,938	0	0	0	0	0	0	0	0
City Deal		Profile				0	0	0	0	0	0	0	0	0	0
		Actual				1,408	2,384	0	0	0	0	0	0	0	0
TOTAL	12,856,736	Profile	20,800	52,450	179,483	208,107	230,496	142,139	171,089	199,446	136,020	188,879	206,277	194,800	1,929,986
		Actual	0	12,000	30,639	250,679	478,967	0	0	0	0	0	0	0	0

This page is left blank intentionally.

# Agenda Item 8

## Greater Cambridge City Deal Joint Assembly

16 September 2015 – Workstream update

Update		Upcoming milestones	
Communications			
<ul style="list-style-type: none"><li>• A recruitment process is under way to recruit to the City Deal Communications Manager post</li><li>• Consultation is being prepared for the A428 corridor, Chisholm Trail and cross-city cycle improvements schemes</li></ul>		<ul style="list-style-type: none"><li>• October-November 2015: Public consultation on A428 corridor and Chisholm Trail</li><li>• January-February 2016: Public consultation on cross-city cycle improvements</li></ul>	
Economic development and promotion			
<ul style="list-style-type: none"><li>• Jonathan Brech has recently been appointed as Cambridge Development Director, working with Cambridge Network</li><li>• Officers are exploring potential to join up work between the partner bodies on economic development, including synergies with LEP funded work on business advice via their new Signpost2Grow website</li></ul>		<ul style="list-style-type: none"><li>•</li></ul>	
Finance			
<i>Covered on the main agenda</i>		<ul style="list-style-type: none"><li>• November 2015: 2015/16 Quarter 2 financial monitoring report to Executive Board</li><li>• December 2015: Autumn Statement</li></ul>	
Governance			
<ul style="list-style-type: none"><li>• Work on potential governance options for a prospective devolution deal is ongoing, with the City Deal commitment to a strong and binding governance arrangement for Greater Cambridge a key aspect of that work – work to progress City Deal governance and investigate potential long-term models is therefore likely to be informed by that wider piece of work</li></ul>		<ul style="list-style-type: none"><li>• Late September: Continuing discussions on potential devolution models</li><li>• October: Potential initiation of officer project work on City Deal governance</li></ul>	
Housing			
<ul style="list-style-type: none"><li>• All three Councils approved the establishment of the Housing Development Agency (HDA) in July</li><li>• An officer workshop was held in August to map out the next steps to implement the HAD</li></ul>		<ul style="list-style-type: none"><li>• Late September: Inaugural meeting of the HDA Shadow Board</li></ul>	
Infrastructure programme			
<ul style="list-style-type: none"><li>• Work on options is being undertaken to inform upcoming decisions on the</li></ul>		<ul style="list-style-type: none"><li>• November 2015: Executive Board to consider options for Histon Road and</li></ul>	



remaining tranche 1 schemes	Milton Road bus priority schemes <ul style="list-style-type: none"> <li>December 2015: Executive Board to consider initial tranche 2 prioritisation and options for A1307 corridor</li> </ul>
<b>Payment-by-results mechanism</b>	
<ul style="list-style-type: none"> <li>Cambridgeshire County Council will soon be leading the commissioning of an independent economic assessment panel to undertake assessments on behalf of four city-regions with similar mechanisms in their respective deals (including Glasgow, Manchester and West Yorkshire)</li> </ul>	<ul style="list-style-type: none"> <li>March 2016: Independent economic assessment panel expected to be commissioned</li> </ul>
<b>Skills</b>	
<ul style="list-style-type: none"> <li>The LEP is in the process of tendering for the Skills Service as agreed earlier in 2015, which is expected to come into operation shortly</li> </ul>	<ul style="list-style-type: none"> <li>September: Skills Service becomes operational</li> </ul>
<b>Smart/digital</b>	
<ul style="list-style-type: none"> <li>Officers are working with BT, Milton Keynes and Leeds on a bid to the Innovate UK Internet of Things Cities demonstrator</li> <li>Work is taking place to establish options for the data and communication infrastructure needed to support smart city applications</li> </ul>	<ul style="list-style-type: none"> <li>30 September: Submission of Internet of Things bid</li> <li>31 October: 'Smart Cities' engagement event #hack Cambridge</li> </ul>
<b>Strategic planning</b>	
<ul style="list-style-type: none"> <li>Further work on the Local Plans was requested by the examining inspectors – this is underway and on track to proceed through member processes in October/November</li> </ul>	<ul style="list-style-type: none"> <li>6 November: Six weeks of consultation begins</li> <li>February 2016: Proposed modifications to the Local Plans to be submitted for inspection</li> </ul>

## Greater Cambridge City Deal Executive Board Forward Plan of decisions

Notice is hereby given of:

- Decisions that that will be taken by the Greater Cambridge City Deal 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?
<b>Meeting date: 3 November 2015</b>		<b>Reports for each item to be published: 26 October 2015</b>	
Histon Road bus priority – options and approval to consult	To review the outcome of options development work and to approve public consultation on those options.	Graham Hughes	Yes
Milton Road bus priority – options and approval to consult	To review the outcome of options development work and to approve public consultation on those options.	Graham Hughes	Yes
Six-monthly report on housing	To note progress on delivering the housing workstream and consider any issues arising.	Alex Colyer	No
2015/16 Quarter 2 financial monitoring report	To note financial information from July-September 2015.	Chris Malyon	No
Smarter Cambridgeshire workstream update	To note progress on implementing the Smarter Cambridgeshire workstream.	Graham Hughes	No

Meeting date: 3 December 2015		Reports for each item to be published: 25 November 2015	
A1307 corridor to include bus priority – options and approval to consult	To review the outcome of options development work and to approve public consultation on those options.	Graham Hughes	Yes
Western Orbital – options and approval to consult	To review the outcome of options development work and to approve public consultation on those options.	Graham Hughes	Yes
Initial prioritisation of schemes for tranche 2 – report on further economic appraisal	To note the outcome of initial prioritisation of potential tranche 2 infrastructure programme schemes according to forecast economic benefits and to approve the proposed approach to the development of schemes for consideration for tranche 2.	Graham Hughes	No
Workstream update	To note progress on workstreams not covered by the main agenda items.	Alex Colyer Graham Hughes Andrew Limb	No
Six-monthly report on skills	To note progress on delivering the skills workstream and consider any issues arising.	Graham Hughes	No
Meeting date: 15 January 2016		Reports for each item to be published: 7 January 2016	
Congestion in Cambridge	To receive feedback on discussions held with key traffic generators in Cambridge and to approve public consultation.	Graham Hughes	No
City centre capacity improvements – options and approval to consult	To review the outcome of options development work and to approve public consultation on those options.	Graham Hughes	Yes

Workstream update	To note progress on workstreams not covered by the main agenda items.	Alex Colyer Graham Hughes Andrew Limb	No
<b>Meeting date: 3 March 2016</b>		<b>Reports for each item to be published: 24 February 2016</b>	
Consultation results and selection of preferred option for schemes along the A428 corridor and coming in to western Cambridge: <ul style="list-style-type: none"> <li>• Madingley Road</li> <li>• A428-M11</li> <li>• Bourn Airfield / Cambourne busway</li> </ul>	To consider the outcomes of the public consultation on the initial options and to select a preferred option to develop in greater detail for each of these 3 schemes, to be subject to public consultation before being brought back to the Executive Board for approval to progress to detailed design.	Graham Hughes	Yes
Chisholm Trail – consultation results and approval to progress detailed design of selected route			
Bourn Airfield/Cambourne busway – consultation results and selection of preferred option	To consider the outcomes of the public consultation on the initial options and to select a preferred option to develop in greater detail, to be subject to public consultation before being brought back to the Executive Board for approval to progress to detailed design.	Graham Hughes	Yes
Cambridge Access Study – Options Report		Graham Hughes	No

2015/16 Quarter 3 financial monitoring report	To note financial information from October-December 2015.	Chris Malyon	No
Workstream update	To note progress on workstreams not covered by the main agenda items.	Alex Colyer Graham Hughes Andrew Limb	No
<b>Meeting date: 8 April 2016</b>		<b>Reports for each item to be published: 31 March 2016</b>	
Cross-city cycling – scheme detail and approval to deliver	To consider detailed schemes informed by public consultation, and to approve delivery of the schemes.	Graham Hughes	Yes
Workstream update	To note progress on workstreams not covered by the main agenda items.	Alex Colyer Graham Hughes Andrew Limb	No
<b>Meeting date: 16 June 2016</b>		<b>Reports for each item to be published: 8 June 2016</b>	
Histon Road – consultation results and selection of preferred measures	To consider the outcomes of the public consultation on the initial options and to select a preferred option to develop in greater detail, to be subject to public consultation before being brought back to the Executive Board for approval to progress to detailed design.	Graham Hughes	Yes
Annual skills review	To note progress made in 2015/16 on delivering the skills workstream and consider any issues arising.	Graham Hughes	No
Annual housing review	To note progress made in 2015/16 on delivering the housing workstream and consider any issues arising.	Alex Colyer	No

2015/16 end of year financial monitoring report	To note financial information from the 2015/16 financial year.	Chris Malyon	No
Workstream update	To note progress on workstreams not covered by the main agenda items.	Alex Colyer Graham Hughes Andrew Limb	No
<b>Meeting date: 22 July 2016</b>		<b>Reports for each item to be published: 14 July 2016</b>	
Milton Road – consultation results and selection of preferred measures	To consider the outcomes of the public consultation on the initial options and to select a preferred option to develop in greater detail, to be subject to public consultation before being brought back to the Executive Board for approval to progress to detailed design.	Graham Hughes	Yes
Western Orbital – consultation results and selection of preferred measures	To consider the outcomes of the public consultation on the initial options and to select a preferred option to develop in greater detail, to be subject to public consultation before being brought back to the Executive Board for approval to progress to detailed design.	Graham Hughes	Yes
City centre capacity improvements – consultation results and selection of preferred option(s)	To consider the outcomes of the public consultation on the initial options and to select a preferred option to develop in greater detail, to be subject to public consultation before being brought back to the Executive Board for approval to progress to detailed design.	Graham Hughes	Yes
Workstream update	To note progress on workstreams not covered by the main agenda items.	Alex Colyer Graham Hughes Andrew Limb	No

Meeting date: 8 September 2016		Reports for each item to be published: 31 August 2016	
2016/17 Quarter 1 financial monitoring report	To note financial information from April-June 2016.		
Workstream update	To note progress on workstreams not covered by the main agenda items.	Alex Colyer Graham Hughes Andrew Limb	No
Meeting date: 13 October 2016		Reports for each item to be published: 5 October 2016	
Chisholm Trail – approval of construction	To approve construction of the scheme.	Graham Hughes	Yes
Workstream update	To note progress on workstreams not covered by the main agenda items.	Alex Colyer Graham Hughes Andrew Limb	No
Meeting date: 17 November 2016		Reports for each item to be published: 9 November 2016	
City centre capacity improvements – approval to consult on preferred option(s)	To approve public consultation on the initial options, after which a further Executive Board decision will be taken to approve detailed development of the preferred option(s).	Graham Hughes	Yes
A1307 corridor to include bus priority – consultation results and selection of preferred option	To consider the outcomes of the public consultation on the initial options and to select a preferred option to develop in greater detail, to be subject to public consultation before being brought back to the Executive Board for approval to progress to detailed design.	Graham Hughes	Yes

Six-monthly report on skills	To note progress on delivering the skills workstream and consider any issues arising.	Graham Hughes	No
Six-monthly report on housing	To note progress on delivering the housing workstream and consider any issues arising.	Graham Hughes	No
2016/17 Quarter 2 financial monitoring report	To note financial information from July-September 2016.	Chris Malyon	No
Workstream update	To note progress on workstreams not covered by the main agenda items.	Alex Colyer Graham Hughes Andrew Limb	No
<b>Meeting date: 15 December 2016</b>		<b>Reports for each item to be published: 7 December 2016</b>	
Madingley Road – Full Business Case and approval to progress detailed design	To consider the Full Business Case for the scheme and to approve detailed design, undertaking statutory processes and procurement prior to a final decision being made by the Executive Board to construct the scheme.	Graham Hughes	Yes
A428-M11 – Full Business Case and approval to progress detailed design	To consider the Full Business Case for the scheme and to approve detailed design, undertaking statutory processes and procurement prior to a final decision being made by the Executive Board to construct the scheme.	Graham Hughes	Yes
Bourn Airfield/Cambourne busway – Full Business Case and approval to progress detailed design	To consider the Full Business Case for the scheme and to approve detailed design, undertaking statutory processes and procurement prior to a final decision being made by the Executive Board to construct the scheme.	Graham Hughes	Yes



Workstream update	To note progress on workstreams not covered by the main agenda items.	Alex Colyer Graham Hughes Andrew Limb	No
-------------------	---	---	----