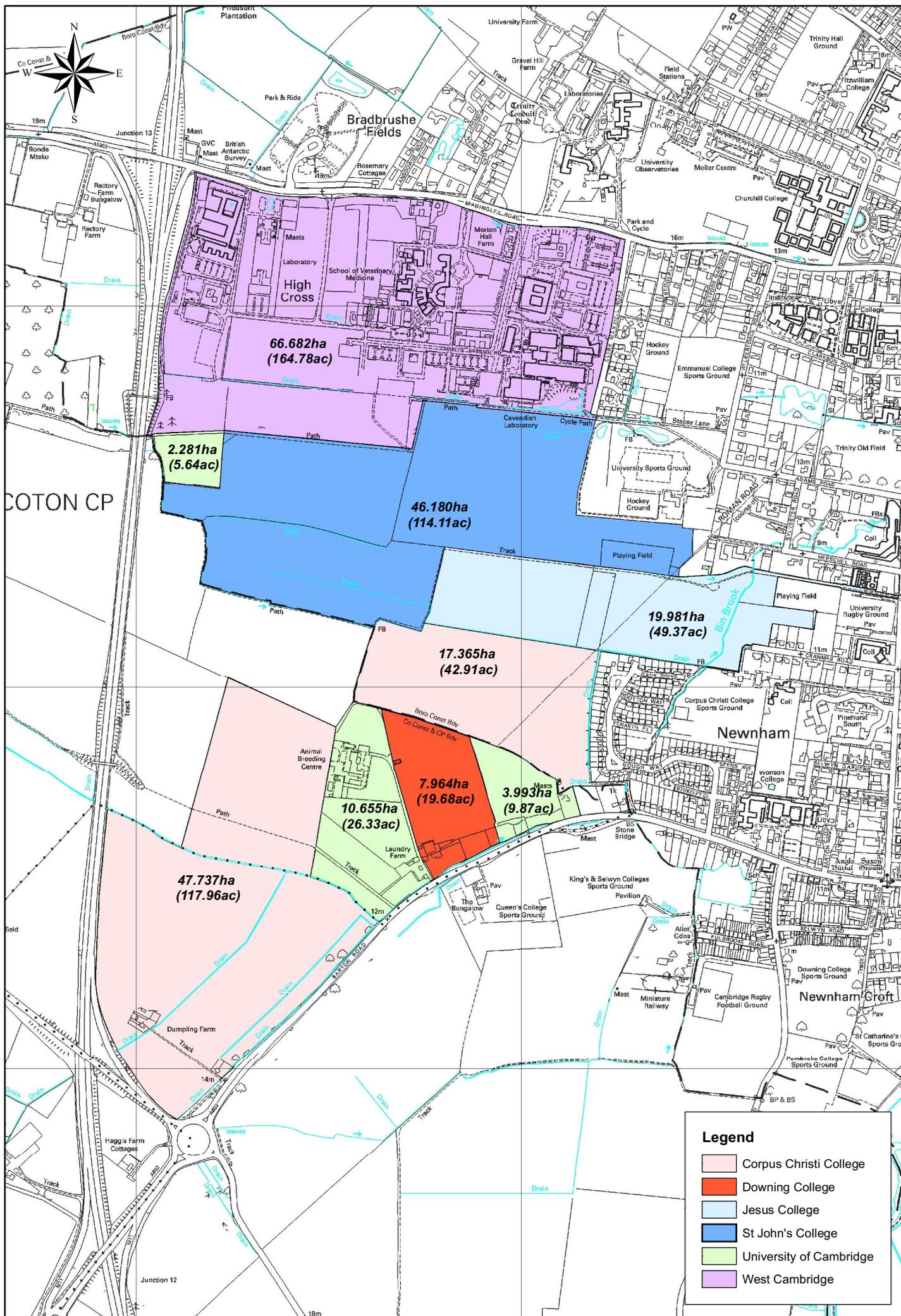


# Appendix 1

West of Cambridge Landownership Plan



# Appendix 2

5352-L-05 Masterplan

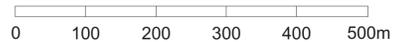
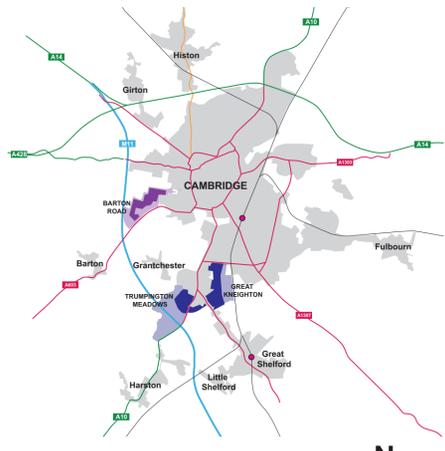


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**KEY**

-  Proposed Residential Development
-  Proposed School
-  Proposed Local Centre
-  Indicative Equipped Play Area
-  Site access via Barton Road with signal controlled crossroad junctions
-  Site access with Madingley Road via Clerk Maxwell Road
-  Links with wider footpath and cycleway network
-  Retained Trees and Hedgerows
-  Proposed Trees and Woodland
-  Public Green Space, to include:  
*Woodland, amenity grassland, species rich grassland, meadow, wetlands, ponds and sports pitches with footway and cycleway routes.*
-  Lake/Attenuation Pond
-  Existing Watercourses
-  Existing Public Right of Way (Long Distance routes named)
-  Existing Traffic Free Cycle Route
-  Proposed Guided Bus Route
-  On Site Footway/Cycleway



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North Barton Road Land Owners Group  
Cambridge

**COMPOSITE SCHEME ILLUSTRATIVE MASTERPLAN**

1:5000@A1  
12 January 2016 SGL / MGH

**5352-L-05** rev -

**fpcr**

masterplanning  
 environmental assessment  
 landscape design  
 urban design  
 ecology  
 architecture  
 arboriculture

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## Appendix 3

North BRLOG A428 and A1303 Bus Consultation and Technical Report from PBA - November 2015

## **Cambourne to Cambridge: Better Bus Journeys Consultation – November 2015**

### **Representations Report**

#### **North Barton Road Landowners Group (North BRLOG)**

#### **Introduction**

This consultation response has been prepared by Carter Jonas LLP on behalf of the North Barton Road Land Owners Group (North BRLOG) to the Cambourne to Cambridge: Better Bus Journeys consultation. North BRLOG comprises four landowners, as follows: Corpus Christi College, Downing College, Jesus College, and University of Cambridge. North BRLOG owns land to the north of Barton Road which is on the south western built-up edge of Cambridge. The North BRLOG site has been promoted through the Cambridge and South Cambridgeshire Local Plans for development, comprising the following uses: approximately 1,500 dwellings, local centre, primary school, and substantial new green infrastructure. The North BRLOG site is within close proximity of Maddingley Road.

There is agreement between most of the landowners of land to the west of Cambridge (University of Cambridge, St John's College and North BRLOG) that a co-ordinated approach to transport and development could be delivered to provide improved accessibility between housing and employment.

In summary, North BRLOG supports the principle of improvements to public transport and the cycling network within and to the west of Cambridge. There is a significant amount of new development underway and planned in the western part of Cambridge e.g. at North West Cambridge and the densification of West Cambridge. Any transport improvements must be cost effective and ultimately be successful in tackling congestion and encouraging more travel by non-car modes of transport. We request that an alternative to Option 1 South is selected i.e. a new online bus and cycle lane from Maddingley Mulch to the existing Maddingley Road Park & Ride site and then a new segregated route leading from the West Cambridge site through to Grange Road via undeveloped land owned by St John's College and North BRLOG. Our client considers that additional public transport and cycling benefits could be delivered if a transport interchange were provided within the West Cambridge site to enable connections with the planned and future Western Orbital Route. The completion of the Western Orbital Route is crucial to the success of any improvements to the Maddingley Road Corridor; not everyone travelling into and from the edge of Cambridge needs to go to the City Centre. The Western Orbital Route would link developments at West Cambridge, North West Cambridge, NIAB (Darwin Green), Cambridge Northern Fringe East, and Cambridge North station, and could in the future provide links to the south towards Addenbrookes. Therefore, North BRLOG requests that at the next stage of consultation, public transport and cycle network improvements to the Western Orbital Route and the Maddingley Road Corridor are considered together; the link between these two routes is already acknowledged by the City Deal Assembly and Executive Board and we understand that these routes will be considered together at preferred options stage. The Western Orbital Route through land to the west of Cambridge could utilise land owned by North BRLOG and indeed it is considered this would be a highly logical alignment, allowing buses to be given the needed priority over other modes.

our client intends to comment in more detail on the proposed transport improvements to the Western Orbital Route when consultation takes place in early 2016 (it is noted this is currently planned for February and March 2016).

## **Background**

As stated elsewhere, North BRLOG does not support the proposed development strategy promoted in Draft Cambridge Local Plan 2014 and Draft South Cambridgeshire Local Plan that seeks to direct a significant proportion of development to new settlements, and in particular the planned new settlement at Bourn Airfield. In summary, our client considers that the over-reliance on new settlements is significantly less sustainable than development on the edge of Cambridge because it will fail to promote travel by sustainable modes of transport, and the likely delays to delivery at the new settlements will undermine the supply of housing and contributions towards transport improvements. In contrast it is much more likely that development on the edge of Cambridge would encourage residents to travel by cycling and public transport because the distances to be travelled to services, facilities and employment are significantly less. Notwithstanding our objection to the proposed Bourn Airfield new settlement, if public transport improvements are to be made to the Cambourne to Cambridge route then we support an alternative to Option 1 South, in conjunction with the completion of the Western Orbital Route because it would deliver the most public transport benefits. A Technical Note has been prepared on behalf of our client and others by Peter Brett Associates, and this is submitted with these representations, to assess the different transport route options and to highlight the potential additional transport benefits if an alternative to Option 1 South was selected.

## **General Comments**

Before our client responds to the questions in the Cambourne to Cambridge Corridor consultation, on their behalf we have some general comments on the content of the Madingley Road/A428 Cambourne to Cambridge Corridor Study Interim Report (May 2015 prepared by Atkins).

Paragraphs 2.5 to 2.8 identify the strategic housing developments that have been included within the transport model. An application has been submitted for the proposed Cambourne West development (Ref. S/2903/14/OL) for 2,350 dwellings; the number of dwellings is higher than is assumed in the transport model. We understand that the application is due to be considered by the Planning Committee at South Cambridgeshire in February 2016, and we anticipate that a decision could be issued approximately 3 months later. A delay to the proposed development would delay the trigger for planning contributions towards the necessary highway improvements associated with it, including improvements to the A428. The impact of more dwellings, delays to the delivery of development and associated highway improvements, and the timing of funding to deliver those highway improvements will need to be factored into the transport model. We have similar concerns about the delivery of development at Bourn Airfield new settlement and what financial contribution it could make to highway improvements without affecting the provision of affordable housing, particularly in the early years of any development occurring. It is unlikely that the Bourn Airfield new settlement can be made as sustainable in transport terms as reasonable alternatives such as that promoted by our client, and the public transport improvements proposed for the Cambourne to

Cambridge Corridor are unlikely to significantly alter travel behaviour from this location and the car will remain the main mode of transport.

Paragraphs 2.74 to 2.76 identify the potential environmental constraints associated with the three Tranche 1 Options. The Green Belt is frequently identified as an environmental consideration for all options and routes. Firstly, the Green Belt is not an environmental designation, and protecting the environment is not one of the five purposes for including land within the Green Belt. Secondly, as set out in Paragraph 90 of the NPPF, local transport infrastructure can be appropriate development in the Green Belt provided that openness is retained, and therefore the impact on openness will need to be assessed for whichever option is selected.

Section 3 contains a summary of the findings of the SWOT analysis (Strength, Weaknesses, Opportunities and Threats). We note that two of the identified 'opportunities' for Option 1 South refer to potential connectivity to the Western Orbital Route and for potential to upgrade cycle facilities. We agree with these 'opportunities' but consider that additional public transport and cycling benefits could be delivered in conjunction with development at the North BRLOG site, and a section of the Western Orbital Route could, and ideally, should pass through this site. If required, land within the North BRLOG site could be provided for an offline dedicated bus and cycle route, which it is considered offers many benefits compared to an online route e.g. on the M11.

## **Consultation Response**

*Qu 10. Do you agree or disagree in principle to better bus journeys between Cambourne and Cambridge?*

Subject to earlier caveats regarding the overall development strategy being pursued, North BRLOG supports the principle of better bus journeys between Cambourne and Cambridge to address existing congestion on the Madingley Road Corridor and to improve access by public transport and cycling to and within the western part of Cambridge. There is a clear rationale for better bus journeys because of planned developments on the western edge of Cambridge including at North West Cambridge and the densification at the West Cambridge site. We consider that additional public transport and cycling improvements could be delivered on the Madingley Road Corridor if these were considered alongside the completion of the Western Orbital Route.

*Qu 11. How much do you support or oppose the proposed options?*

A Technical Note has been prepared by Peter Brett Associates to assess each of the options. We do not support Option 1 North or Option 1 Central for the reasons set out in Appendix A of the Technical Note. We request that an alternative to Option 1 South is selected i.e. a new online bus and cycle lane from Madingley Mulch to the existing Madingley Road Park & Ride site and then a new segregated route leading from the West Cambridge site through to Grange Road. The suggested alternative to Option 1 South would deliver the objectives for the improvements to the Madingley Road Corridor. This alternative option would cost less than existing Option 1 South because it would avoid the construction of a new bridge over the M11, it would avoid existing congestion hotspots at Northampton Street, and there would be significant journey time savings compared with other

options. In addition, the alternative to Option 1 South could connect with a transport interchange within the West Cambridge site and the Western Orbital Route in both a north and south direction.

*Qu 12. How important is it for you that cycling and pedestrian facilities are improved?*

It is essential that cycling and pedestrian facilities are improved as part of public transport improvements to the Madingley Road Corridor and future improvements to the Western Orbital Route. We consider that additional public transport and cycling benefits could be delivered in the western edge of Cambridge in conjunction with development at the North BRLOG site.

*Qu 16. Do you have any other comments?*

See above.

***Carter Jonas – 20<sup>th</sup> November 2015***

## TECHNICAL NOTE

**Job Name:** Land North of Barton Road (RP)  
**Job No:** 32285-5501  
**Note No:** TN/01  
**Date:** 17<sup>th</sup> November 2015  
**Prepared By:** Paul Murray/Margaret Theobald  
**Subject:** **Greater Cambridge City Deal, Cambourne to Cambridge: Better Bus Journeys Consultation**

---

### 1. Introduction

PBA have been commissioned by the Landowners of Land North of Barton Road (BRLOG) and St John's College, Cambridge to examine the options proposed by the Greater Cambridge City Deal for bus improvements between Cambourne and Cambridge with special reference to the potential for development of the Land between Madingley Road and Barton Road.

North BRLOG comprises four landowners, as follows: Corpus Christi College, Downing College, Jesus College, and University of Cambridge. To the north of these ownerships is land in the ownership of St Johns College. A land ownership plan is included at Appendix B.

North BRLOG owns land to the North of Barton Road which is on the south western built-up edge of Cambridge. The site is currently located within the Green Belt. It crosses the administrative boundary between Cambridge City and South Cambridgeshire. In September and October 2013 representations were submitted on behalf of North BRLOG to both draft Cambridge Local Plan (Draft CLP2014) and draft South Cambridgeshire Local Plan, highlighting that the site was capable of being developed in a sustainable way.

The St Johns College land also lies within the Green Belt and falls entirely within the administrative area of Cambridge City Council. Representations have also been made by the College to the City Local Plan confirming their view that the land is suitable, available and deliverable for new residential-led sustainable development.

Taking both the North BRLOG and St Johns College land together a co-ordinated development could be delivered with appropriate transport connections and an orbital transport route, including for walking, cycling and public transport trips, providing links between housing and employment.

The delivery of the City Deal proposals along both the A428 corridor and the Western Orbital Route show that this land west of Cambridge is ideally located to benefit from these connections and will lead to a highly sustainable, residential led development that would be well connected to the key employment sites.

At peak periods the transport network in the city already operates at or near capacity and additional vehicular trips would be difficult to accommodate, increase congestion and delay, damage the environment and worsen the quality of life of those who live and work in the city.. The Transport Strategy for Cambridge and South Cambridgeshire (TSCSC) and the Cambridge and South Cambridgeshire Submitted Local Plans identify a series of transport proposals to provide for increased travel demand over the period to 2031 including that arising from future development. The TSCSC therefore focuses on achieving reliable, safe and convenient access to and around the city for non-car modes of transport. For shorter trips walking and cycling are the focus, while for medium and longer distance trips public transport is the primary focus.

The A428 corridor is one of the key radial routes into Cambridge with high levels of current and planned housing growth. Parts of the route currently suffer from heavy congestion, queuing traffic, poor journey times and journey time reliability during peak hours.



## TECHNICAL NOTE

The proposals for the corridor form part of the TSCSC and have key objectives to provide for the following:

1. Congestion free public transport serving the corridor (including new developments) in order to avoid an increase in current congestion levels and PT journey times.
2. Public transport serving key current/future trip generators in the A428 corridor (west of the M11), including Cambourne and Bourn Airfield.
3. Public transport serving key current/future trip attractors in Cambridge – City centre and other employment sites (i.e. Science Park, Addenbrooke's Hospital)

There is a lack of information about where the proposals finish at the eastern end of the route and how access to the City Centre, the Science Park and Addenbrooke's will be achieved. Options for the Area 1 north and central appear to terminate at the Northampton Street/Queens Road junction, whilst Option Area 1 South appears to terminate at Grange Road with no indication of further connections.

It is critical that these radial route options are considered together with the recent proposals for the Western Orbital route otherwise the radial route only appears to provide limited benefit in terms of meeting the objectives above.

This analysis looks only at the options to the east of the M11 as options to the west of the M11 do not have significant effects on theour clients landholdings east of the M11..

Figures 1 and 2 below summarise the routes and the key characteristics as presented in the consultation documentation.

Figure 1: Consultation Routes



# TECHNICAL NOTE

Figure 2 Consultation Route Summaries

**AREA 1 NORTH**

- Bus-only route north of the American Cemetery and re-joining Madingley Road just before the M11
- Bus lane into Cambridge from existing Park & Ride
- Initial outline costs: £20m



Bus-only route with bus lane into Cambridge only



14 minute journey



Some improvements



Medium cost

**AREA 1 CENTRAL**

- Bus lane into Cambridge from the Madingley Mulch roundabout along Madingley Rise and Madingley Road
- No improvements outbound
- Initial outline costs: £18m



Bus lane into Cambridge only



14 minute journey



Some improvements



Low cost

**AREA 1 SOUTH**

- Bus-only route north of Coton to Grange Road connecting to the West Cambridge University site.
- New bridge over M11
- Buses can continue via West Road and Silver Street
- No impact to traffic on Madingley Road
- Initial outline costs: £67m



High quality bus-only route



7 minute journey



Major improvements



High cost



## TECHNICAL NOTE

### 2. Option Assessment

The options put forward in the consultation and the PBA alternative option have been assessed against a number of criteria. The table in Appendix A shows the results of that assessment

The criteria used were:

- Are the Stated Objectives of the Scheme met?
- Land issues
- Engineering challenges
- Environmental Impact
- Costs/funding
- Access
- Bus journey times
- Access to city centre
- Highway journey times
- Walking/Cycling

As part of this assessment the Landowners have also considered a further option (Area 1 Alternative – that considers access through West Cambridge and into the City further to the south potentially using Rifle Range Road and land in the ownership of both St Johns College and Jesus College.

#### Key Issues

##### *Area 1 North and Central*

This route does not meet the objective to provide congestion free public transport serving the corridor, as it only provides east bound bus improvements and terminates at the congested Northampton Street Queens Road junction. Additionally the does it meet the objective to provide public transport to serve the city centre and other employment sites as an interchange at the existing park and ride would limit the connectivity with the West Cambridge and North West Cambridge development sites.

The proposed scheme will be constrained by the existing corridor and the constrained junction at Northampton Street/ Queens Road. This may require the acquisition of land by CPO and require the relocation of utilities and services.

Madingley Road between the existing Park and Ride site and Northampton Street does not currently experience intensive congestion and the provision of a dedicated bus lane and improved cycle facilities is likely to fundamentally change the character of the street, with the loss of verges, trees and potentially hedgerows with little local benefit,

##### *Area 1 South*

Area 1 South meets the objectives defined for the scheme to provide congestion free public transport along the corridor with public transport links to the west of the M11 and links to the city centre and the employment sites. As a suggested route it provides a quicker service into the city centre than the other options, plus it provides an improvement for west bound journeys not addressed by other options.

The route has the ability to connect into the West Cambridge and North West Cambridge development sites as well as the established Park and Ride site at Madingley Road and significantly it has the potential to integrate with the emerging options for the Western Orbital Route.

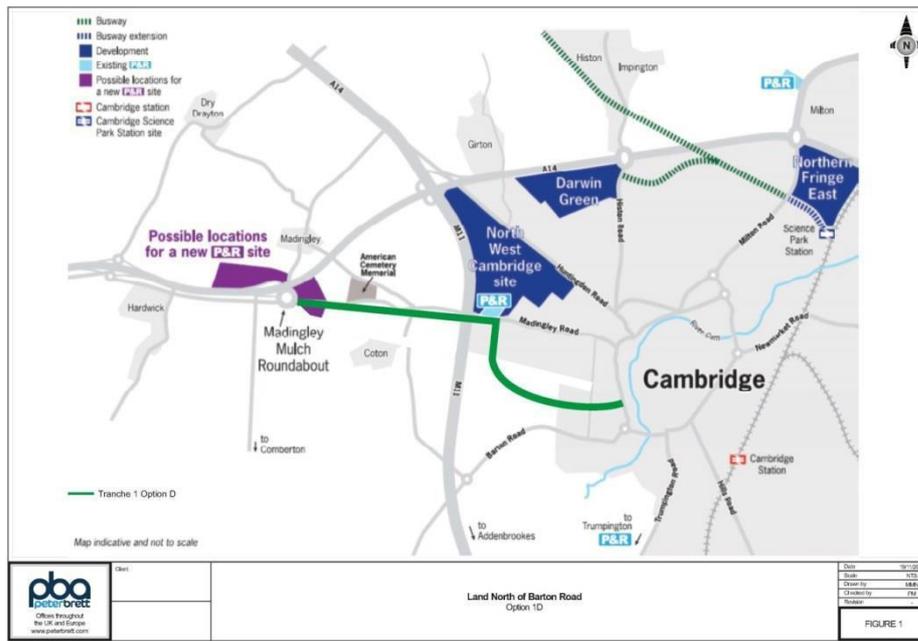
##### *Area 1 Alternative*

Figure 3 below presents an alternative proposed option.

Figure 3:Area 1 Alternative



# TECHNICAL NOTE



The Area 1 Alternative route would utilise existing infrastructure to the west of the M11 including the M11 junction itself. It is likely that some improvement to the junction would be required but more detailed investigation is needed to determine what would be required

This option is likely to deliver the benefits highlighted above for the Area 1 South option at a reduced cost as a new bridge over the M11 and an extensive new road link would not be required.

### 3. Other Matters

We understand that the Western Orbital Route options will come forward for consultation some time in the first half of 2016. However, the success of both Maddingley Road/ A428 Cambourne to Cambridge corridor scheme and the western orbital routes will be highly dependent on each other. It is therefore essential that schemes are considered as an entire strategy to meet the objectives and aspirations of the Greater Cambridge City Deal.

To this end further investigation work is required for both initiatives and we would suggest joint consultations are undertaken.



## TECHNICAL NOTE

### 4. Conclusion

From the above assessment our recommended preferred options are Area 1 South and Area 1 Alternative. This is because:

- only these options meet the stated objectives of the proposals
- They provide benefits to both east and west bound travellers
- Interchange with the proposed orbital routes is more accessible for W and NW Cambridge development sites
- There are significant journey time savings compared to Area 1A and Area 1B as well as the do minimum.
- Only these routes avoid the current congestion hot spot at Northampton Street and give easier access to the city centre
- They provide public transport benefits which enable a more sustainable development to come forward as part of the LNBR proposals and Local plan Representations.

There are a number of additional benefits of the Area1 Alternative option:

- It utilises existing infrastructure through west Cambridge
- It provides similar benefits to Area1 C but does not need a new bridge over the M11 and is therefore likely to have lower costs.
- It can link with the Park and Ride, a new interchange within West Cambridge and the new orbital route

Further detailed feasibility assessment will be required particularly at the eastern end of the route.

These proposals should be considered in a coordinated approach alongside the proposed Western Orbital and City Centre Public Transport Strategy.

Our clients are happy to enter into discussions with the authorities in relation to the Area 1 South and Area 1 Alternative routes.

# TECHNICAL NOTE

## Appendix A

Area 1 North	Area 1 Central	Area 1 South	Area 1 Alternative
Are the Stated Objectives of the Scheme met?			
<p>1. Does not meet objective as may be increase in congestion only addresses eastbound.</p> <p>2. Meets this Objective.</p> <p>3. Does not meet this objective as may increase congestion at Northampton Street junction which is a barrier to access to the city centre and provides poor interchange with potential Orbital routes to Science Park and Addenbrooke's.</p>	<p>1. Does not meet objective as may be increase in congestion only addresses eastbound.</p> <p>2. Meets this Objective.</p> <p>3. Does not meet this objective as may increase congestion at Northampton Street junction which is a barrier to access to the city centre and provides poor interchange with potential Orbital routes to Science Park and Addenbrooke's.</p>	<p>1. Meets this Objective.</p> <p>2. Meets this Objective.</p> <p>3. Meets this Objective.</p>	<p>1. Meets this Objective.</p> <p>2. Meets this Objective.</p> <p>3. Meets this Objective.</p>
<b>Land Issues</b>			



## TECHNICAL NOTE

Area 1 North	Area 1 Central	Area 1 South	Area 1 Alternative
<ul style="list-style-type: none"> <li>• Uses existing road space from M11 to park and ride and into the city centre</li> <li>• Lack of clarity with scheme results in difficulty determining land requirements</li> <li>• Additional land may need to be acquired by CPO</li> <li>• Very constrained site at Northampton Street/Queens Road/mini roundabout</li> </ul>	<ul style="list-style-type: none"> <li>• Uses existing road space from M11 to park and ride and into the city centre</li> <li>• Lack of clarity with scheme results in difficulty determining land requirements</li> <li>• Additional land may need to be acquired by CPO</li> <li>• Very constrained site at Northampton Street/Queens Road/mini roundabout</li> <li>• Land not available for outbound bus lanes</li> </ul>	<ul style="list-style-type: none"> <li>• Through third party land (potentially multiple landowners)</li> <li>• Potential for slow delivery of route and slowing delivery of the site if agreements are protracted;</li> <li>• Land required for two way bus route + pedestrian + cycle infrastructure -potentially 6.75m+2m (footway)+3.5m (footway/cycleway) = 12.25m</li> <li>• Potential constraints on West Cambridge master plan (Cambridge University making separate representations)</li> </ul>	<ul style="list-style-type: none"> <li>• Through third party land (potentially multiple landowners)</li> <li>• Potential for slow delivery of route and slowing delivery of the site if agreements are protracted;</li> <li>• Land required for two way bus route + pedestrian + cycle infrastructure - potentially 6.75m+2m (footway)+3.5m (footway/cycleway) = 12.25m</li> <li>• Potential constraints on West Cambridge master plan (Cambridge University making separate representations)</li> </ul>
Engineering challenges			
<ul style="list-style-type: none"> <li>• Utilities/Services</li> <li>• Constrained Corridor</li> </ul>	<ul style="list-style-type: none"> <li>• Utilities/Services</li> <li>• Constrained Corridor</li> </ul>	<ul style="list-style-type: none"> <li>• Entirely new route - through third party land;</li> <li>• New bridge over motorway</li> </ul>	<ul style="list-style-type: none"> <li>• Entirely new route - through third party land;</li> <li>• Upgrade existing M11 junction</li> </ul>
Environmental Impact			
<ul style="list-style-type: none"> <li>• Increased severance</li> <li>• Landscape constraint to north of Madingley Road – protected fields (Ridge and Furrow) adjacent to Park &amp; Ride and west of Madingley Rise</li> <li>• Impacts on hedge rows on Madingley Road</li> </ul>	<ul style="list-style-type: none"> <li>• Increased severance</li> <li>• Landscape constraint to north of Madingley Road – protected fields adjacent to Park &amp; Ride(Ridge and Furrow) and west of Madingley Rise</li> <li>• Impacts on hedge rows on Madingley Road</li> </ul>	<ul style="list-style-type: none"> <li>• New route may have protected species (may need to find receptor sites);</li> <li>• Other environmental designations</li> <li>• Visual impact of elevated bridge</li> </ul>	<ul style="list-style-type: none"> <li>• New route may have protected species (may need to find receptor sites);</li> <li>• Other environmental designations</li> </ul>
Cost / Funding			
<ul style="list-style-type: none"> <li>• Medium cost however, this could have increased costs due to utilities in the verges/footways on Madingley Road.</li> <li>• Lack of information provided for schemes, therefore difficult to comment on price</li> </ul>	<ul style="list-style-type: none"> <li>• Low cost - however, this could have increased costs due to utilities in the verges/footways</li> <li>• Lack of information provided for schemes, therefore difficult to comment on price</li> </ul>	<ul style="list-style-type: none"> <li>• High cost - largely due to new bridge construction over the M11</li> </ul>	<ul style="list-style-type: none"> <li>• Medium to High Cost – However, the cost would be significantly less than Option C due to junction improvements rather than a new bridge</li> <li>• The scheme also makes use of some existing highway, therefore less new road will be built</li> </ul>

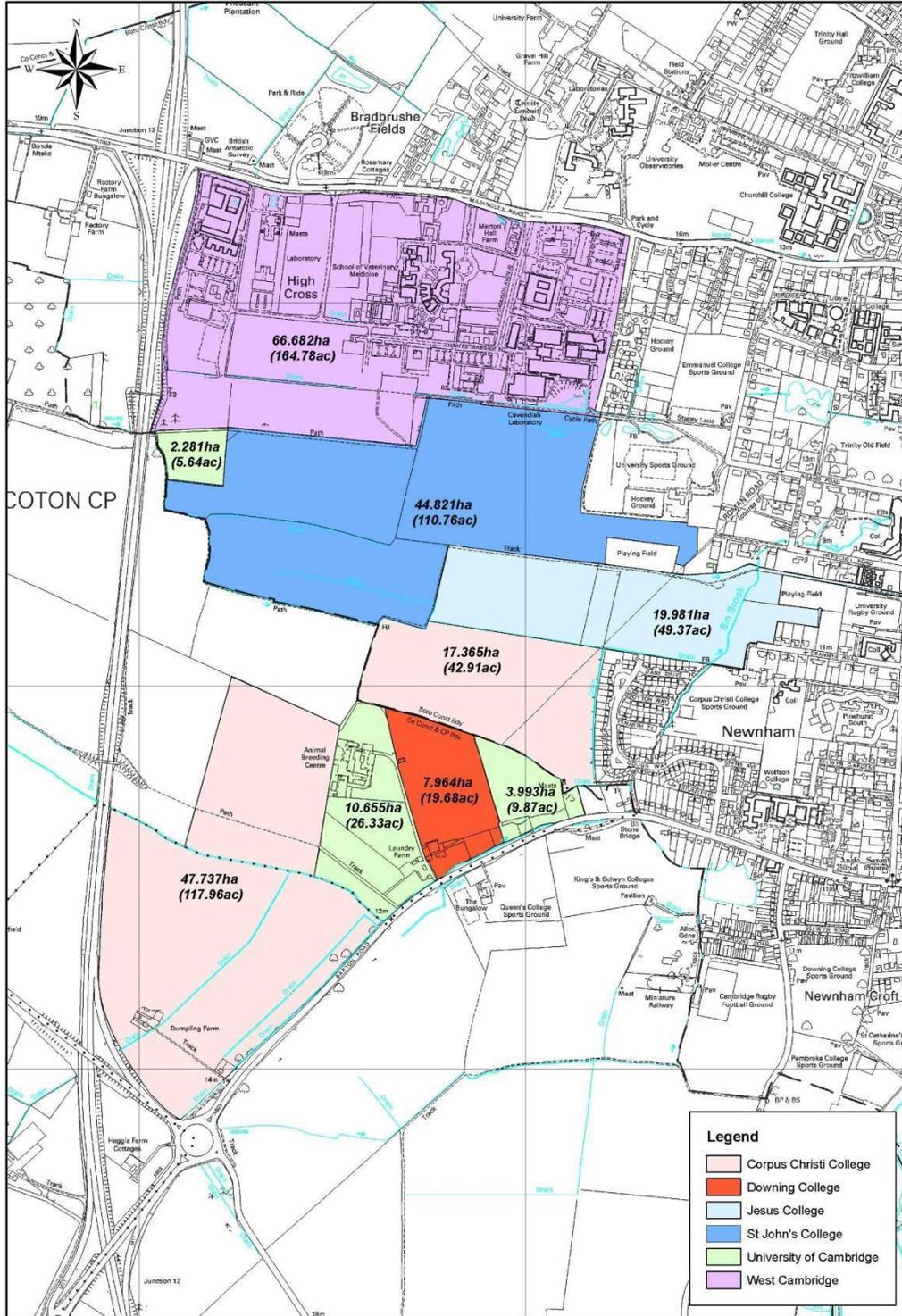


## TECHNICAL NOTE

Area 1 North	Area 1 Central	Area 1 South	Area 1 Alternative
			compared to Tranche 1 Option C
Access			
<ul style="list-style-type: none"> <li>Only provides eastbound bus lanes</li> </ul>	<ul style="list-style-type: none"> <li>Only provides eastbound bus lanes</li> </ul>	<ul style="list-style-type: none"> <li>Would create a more direct route into the City Centre and other destinations</li> </ul>	<ul style="list-style-type: none"> <li>Would create a more direct route into the City Centre and other destinations</li> </ul>
Bus Journey Times			
<ul style="list-style-type: none"> <li>Eastbound direction journey time is improved to 14 minutes</li> <li>It does not appear that there is any beneficial change in the westbound direction journey time</li> </ul>	<ul style="list-style-type: none"> <li>Eastbound direction journey time is improved to 14 minutes</li> <li>It does not appear that there is any beneficial change in the westbound direction journey time</li> </ul>	<ul style="list-style-type: none"> <li>Eastbound and Westbound directions journey times are both 7 minutes.</li> <li>However, it is not clear where the route ends</li> </ul>	<ul style="list-style-type: none"> <li>Eastbound and Westbound directions journey times are both 7 minutes.</li> <li>However, it is not clear where the route ends</li> </ul>
Access to City Centre			
<ul style="list-style-type: none"> <li>Terminates at Northampton Street junction – a current congestion hotspot that has limited scope for improvement.</li> </ul>	<ul style="list-style-type: none"> <li>Terminates at Northampton Street junction – a current congestion hotspot that has limited scope for improvement</li> </ul>	<ul style="list-style-type: none"> <li>Potential to route via Rifle Range Road, Grange Road and Sedgewick Avenue to the city centre directly into Silver Street. Thus, avoiding Northampton Street and Queens Road</li> </ul>	<ul style="list-style-type: none"> <li>Potential to route via Rifle Range Road, Grange Road and Sedgewick Avenue to the city centre directly into Silver Street. Thus, avoiding Northampton Street and Queens Road</li> </ul>
Interchange with potential Orbital Routes			
<ul style="list-style-type: none"> <li>Interchange likely at P&amp;R</li> <li>Poor connectivity with West Cambridge and North West Cambridge development sites and beyond.</li> </ul>	<ul style="list-style-type: none"> <li>Interchange likely at P&amp;R</li> <li>Poor connectivity with West Cambridge and North West Cambridge development sites and beyond.</li> </ul>	<ul style="list-style-type: none"> <li>Interchange possible at the Park and ride, and: Interchange possible with orbital links to the south of the West</li> </ul>	<ul style="list-style-type: none"> <li>Interchange possible at the Park and ride, and: Interchange possible with orbital links to the south of the West Cambridge development site</li> </ul>
Highway Journey Times			
<ul style="list-style-type: none"> <li>Potential loss of vehicular capacity on Madingley Road</li> </ul>	<ul style="list-style-type: none"> <li>Potential loss of vehicular capacity on Madingley Road</li> </ul>	<ul style="list-style-type: none"> <li>No impact along Madingley Road</li> </ul>	<ul style="list-style-type: none"> <li>No impact along Madingley Road</li> </ul>
Walking and Cycling			
<ul style="list-style-type: none"> <li>Additional cycling capacity is provided</li> </ul>	<ul style="list-style-type: none"> <li>Additional cycling capacity is provided</li> </ul>	<ul style="list-style-type: none"> <li>Additional cycling capacity is provided</li> <li>Opportunity for new dedicated cycling route</li> </ul>	<ul style="list-style-type: none"> <li>Additional cycling capacity is provided</li> </ul>

# TECHNICAL NOTE

## Appendix B



A.45,527



## Appendix 4

FINAL North BRLOG Reps to Western Orbital Route and Technical  
Note Western Orbital Route Consultation - March 2016

**Western Orbital Route Consultation – February 2016  
Representations Report  
North Barton Road Landowners Group (North BRLOG)**

## **Introduction**

This consultation response has been prepared by Carter Jonas LLP on behalf of the North Barton Road Land Owners Group (North BRLOG) to the Western Orbital Route consultation. North BRLOG comprises four landowners, as follows: Corpus Christi College, Downing College, Jesus College, and University of Cambridge. North BRLOG owns land to the north of Barton Road, which has a close synergy with the Western Orbital Route and associated transport infrastructure.

**North BRLOG supports Option D, and in particular a Western Orbital Route to the east of the M11, a Park & Ride site located to the north east of Junction 12 of the M11, and improvements to the cycle route along Barton Road. North BRLOG owns the land which might deliver these improvements. It is willing to assist in the delivery of the Western Orbital Route and associated infrastructure, and to contribute towards the funding of that infrastructure in conjunction with development on land north of Barton Road which it is pursuing through the review of the Local Plans for Cambridge and South Cambridgeshire. Any agreed contribution from North BRLOG will help the business case for the route and infrastructure and will reduce pressure on the public purse.**

A Technical Note has been prepared by Peter Brett Associates on behalf of North BRLOG to assess each of the potential Western Orbital Route and Park & Ride/Cycle options, the benefits and constraints of each option, and the benefits of our preferred alternative route option. This Technical Note is submitted with these representations.

There is agreement between the University of Cambridge, St John's College (who own land to the north of the North BRLOG site) and North BRLOG that a co-ordinated approach to transport and development could be delivered to provide improved accessibility between housing and employment.

## **Summary of Representations**

In supporting Option D, we believe that the most beneficial and appropriate solution in transport terms would require land owned by North BRLOG, who are willing to discuss the route and associated infrastructure options, the requirement for land within their ownership, and the necessary funding to deliver that infrastructure. The land required for the Park & Ride site could be provided through a leasehold arrangement similar to other facilities around Cambridge. The fact that North BRLOG are willing landowners would avoid the need for compulsory purchase of land, and would reduce the use of City Deal funding so that it can be spent on other vitally important transport projects. The Western Orbital Route is being delivered in conjunction with development elsewhere e.g. through North West Cambridge, and the same approach should be used in this case.

The key findings of the Technical Note submitted with these representations support our preferred option of a Western Orbital Route to the east of the M11 and a Park & Ride site to the north and east of Junction 12 of the M11. There are capacity issues associated with a bus route on the M11, and capacity issues also at the junctions associated with a bus route on the M11 and to the west of the M11. It would be beneficial if the Western Orbital Route avoided the use of Junctions 12 and 13 of the M11. It would also be beneficial to provide a transport interchange within the West Cambridge site to enable passengers to transfer between bus routes and other modes of transport. Any cycle routes provided as part of the Western Orbital Route need to be direct and convenient, which indicates that a route to the east of the M11 should be preferred. A Western Orbital Route to the east of the M11 would also facilitate highway improvements to the Grantchester Road/Barton Road/M11 slip road junction off Junction 12.

Hence, there are highway, transport and business case reasons to support an alternative Western Orbital Route to the east of the M11 and through North BRLOG land.

### **Delivery of Western Orbital Route with North BRLOG**

We stress the willingness of North BRLOG to assist in the delivery of the Western Orbital Route and associated infrastructure, because we have doubts about the suitability and availability of other potential land for the project. Specifically, the Coton Countryside Reserve, which is managed by Cambridge Past Present & Future, occupies a large proportion of the land to the west of the M11, and thus might be much harder to acquire.

A contribution of land and planning obligations from North BRLOG to deliver the Western Orbital Route and associated infrastructure would reduce the use of City Deal funding, so that it could be spent on other transport projects. City Deal funding is limited, and there are lots of priority transport projects that will need to draw on those funds. New Homes Bonus funding is also limited, and is already expected to contribute towards the funding of affordable housing and community infrastructure. The planned developments at Cambourne West and Bourn Airfield will already be expected to contribute towards highway and public transport improvements on the A428 and A1303 Cambourne to Cambridge Corridor. As such, it is only public funding that will be available to deliver this section of the Western Orbital Route, rather than a combination of public and private funding as used for other sections.

### **Delivery of Western Orbital Route through NW Cambridge**

The Western Orbital Route is already planned for delivery from Histon Road to the West Cambridge site through the delivery of on-site infrastructure through both the NIAB residential development and the North West Cambridge local centre. In the case of North West Cambridge the Western Orbital Route is facilitated through the primary street and dedicated areas of bus only infrastructure that will be controlled, through the use of bus gates, and is being provided as part of the planning consent and is therefore factored into development costs. It is not clear why a different approach is being adopted for this section of the route. The Western Orbital Route should not be delivered as a standalone infrastructure project because it would be more cost effective for it to be delivered in conjunction with development. A contribution of land and planning obligations from North BRLOG to

deliver the Western Orbital Route and associated infrastructure would reduce the use of City Deal funding, so that it could be spent on other transport projects.

## **Consultation Response**

We set out below our response to the relevant consultation questions.

### **6. Do you support the concept of a 'Western Orbital' bus link on or near the M11 between Junctions 11 (Trumpington) and 13 Madingley Road) to connect housing and employment areas?**

We strongly support the principle of a Western Orbital Route for both bus and cycle use. However any route needs to meet the transport objectives of the route, and be the most appropriate in practical and transport terms taking into account the impact on the highway network and junctions. The business case for the selected route also needs to be made, taking into account the availability of funding, the cost of highway and junction improvements, and the number of potential passengers likely to use the route. The availability of the land required to deliver the selected Western Orbital Route will be very important.

North BRLOG prefers an alternative Western Orbital Route located to the east of the M11. North BRLOG is willing to discuss and agree the delivery of the Western Orbital Route and associated infrastructure on land that it controls, and to contribute towards the funding of that infrastructure in conjunction with development on land north of Barton Road. A contribution of land and planning obligations from North BRLOG to deliver the Western Orbital Route and associated infrastructure would reduce the use of City Deal funding, so that it could be spent on other transport projects.

### **7. To what extent do you support a bus link: On the M11; Off M11 East; Off M11 West?**

North BRLOG strongly supports a bus link to the east of the M11. The Technical Note submitted with these representations support our preferred option of a Western Orbital Route to the east of the M11. There are capacity issues associated with a bus route on the M11 and capacity issues at the junctions associated with a bus route on the M11 and to the west of the M11. An alternative Western Orbital Route through West Cambridge and North BRLOG land would not need to use Junctions 12 or 13 of the M11, which would be a benefit in terms of cost and capacity. Bus journey times would be faster and more reliable if the Western Orbital Route was located to the east of the M11 because it would avoid crossing junctions on the M11. Additional development to the west of Cambridge, including on North BRLOG land, would increase the number of potential passengers during peak and off-peak hours, which in turn would support the business case for the Western Orbital Route.

### **8. All options labelled A, B, C and D can be combined with a bus route on or near the M11. To what extent do you support: Option A; Option B; Option C; or Option D?**

North BRLOG support Option D for the following reasons:

1. The difficulty of running buses along the M11 motorways due to capacity issues;
2. Capacity issues associated with crossing the M11 motorway and the cost of providing additional infrastructure;

3. The benefits of providing a dedicated off M11 bus and cycle link to the east of the M11;
4. The provision of the bus link to the east of the M11 to provide direct linkage between west Cambridge and Junction 11 of the M11;
5. The provision of interchange facilities for both orbital and radial routes on the West Cambridge site;
6. The potential for Park and Ride and Park and Cycle on land to the east of the M11 at Junction 12 to the north or south of Barton Road with associated cycle improvements on Barton Road;
7. An improved business case delivered in conjunction with development north of Barton Road;
8. The benefit of development funding the delivery of part of the route between West Cambridge and Junction 12 of the M11; and
9. Development funding potentially helping to deliver the Park and Ride and Park and Cycle on land to the east of the M11 at Junction 12;

The North BRLOG site offers significant opportunities to enable and encourage a high proportion of the off-site movements to be made by non-car modes. The North BRLOG land could not only provide the land and contribute towards the delivery costs of the Western Orbital Route and associated infrastructure, but also could provide patronage (both bus riders and cyclists) which would improve the business case for the project.

*9. If a bus link east or west off the M11 is chosen then it would also be possible to offer cycle provision. Do you support the creation of a cycleway near the M11 to link housing and employment sites?*

North BRLOG supports the delivery of a cycle route as part of the Western Orbital Route. Any cycle routes provided as part of the Western Orbital Route would need to be direct and convenient. The bus and cycle route do not necessarily need to be alongside one another for the whole length of the Western Orbital Route, and it may be preferable for the cycle route to take a more direct route that also connects with existing cycle routes to the west of Cambridge. A cycle link to the east of the M11 would provide direct and convenient cycle routes and a much needed north/south route within Cambridge, and could connect to a Park & Ride/Cycle facility located to the north and east of Junction 12 of the M11 and improvements to the cycle route along Barton Road.

*10. Do you support cycling improvements along Barton Road?*

North BRLOG supports cycling improvements along Barton Road. North BRLOG owns land to the north of Barton Road which could be used to widen and improve the existing route.

*11. Would you consider cycling all or part of this 'orbital' route if there were better and more direct cycle facilities?*

No specific comment is offered here. However, no data has been collected to determine the number of potential cyclists that would use each of the Western Orbital Route options. In principle, we consider that more cyclists would use a route that is safe, direct and convenient. A cycle link to the east of the M11 would provide direct and convenient cycle routes and a much needed north/south route within Cambridge, and could connect to a Park & Ride/Cycle facility located to the north and east of Junction 12 of the M11 and improvements to the cycle route along Barton Road.

12. We would like your opinions on creating new Park & Ride and/or Park & Cycle sites. Please note all Park & Ride sites include cycle provision. To what extent do you support: A new Park & Ride at Junction 11 (Trumpington); A new Park & Cycle at Junction 12 (Barton); and A new Park & Ride at Junction 12 (Barton)?

North BRLOG strongly supports a Park & Ride/Cycle facility at Junction 12 of the M11. It is not clear how attractive a facility that only provided park and cycle facilities would be to potential users. North BRLOG could make land available for a Park & Ride/Cycle facility to the east of the M11 at Junction 12, and could do this through a leasehold arrangement with Cambridgeshire County Council which is similar to other Park & Ride sites in Cambridge e.g. for a period of 25 to 35 years.

13. We welcome your suggestions for alternative ideas to improve links between housing and employment sites around the outskirts of the city.

We suggest an alternative for the Western Orbital Route through the North BRLOG site, to provide a convenient and cost effective route for both buses and cycles. The North BRLOG landowners could provide land and contribute towards the funding of the Western Orbital Route and a Park & Ride site. The Western Orbital Route needs to properly serve West Cambridge as one of the key destinations on the route, and a transport interchange should be provided within the West Cambridge site to enable passengers to transfer between bus routes and between modes of transport.

**Carter Jonas – 18th March 2016**

**Date: February 2016**

**Subject: Representations to the Western Orbital Route Consultation**

## Introduction

This Statement has been prepared by Peter Brett Associates LLP on behalf of the North Barton Road Land Owners Group (North BRLOG) with regards to the March 2016 Western Orbital Route Consultation.

The March 2016 Western Orbital Route Consultation looks at the options proposed by the Greater Cambridge City Deal for the proposed Western Orbital Route, which is defined as a “*new, fast and reliable link for buses between the west and south of Cambridge either along or near the M11*”. The Consultation is also considering potential transport infrastructure associated with the Western Orbital Route, such as the location of new Park & Ride (P&R) or Park & Cycle (P&C) sites and new or improved cycle routes.

North BRLOG comprises four landowners, as follows: Corpus Christi College, Downing College, Jesus College, and University of Cambridge. North BRLOG owns land to the North of Barton Road which is on the south western built-up edge of Cambridge. The site is currently located within the Green Belt and crosses the administrative boundary between Cambridge City and South Cambridgeshire. A land ownership plan is provided at Appendix A.

## What is proposed?

A Western Orbital Study Options Report (September 2015) prepared on behalf of the Cambridge City Deal Partnership by Atkins Ltd considers various Options for the Western Orbital Route. The report concludes that a new bus link between Junctions 11 and 13 of the M11 should either be on the M11 or off the M11 to the east or off the M11 to the west. Table 1, below summarises the Options and estimated cost.

**Table 1: M11 Options**

Option	Description	Estimated Cost
On M11	<ul style="list-style-type: none"> <li>• Bus link along M11, buses interact with general traffic.</li> <li>• Priority for buses at existing junctions</li> <li>• Two general traffic lanes would remain in each direction</li> </ul>	£9m
Off M11	<ul style="list-style-type: none"> <li>• Uncongested bus link with no interaction with general traffic</li> <li>• Close to M11 but motorway remains largely unaffected</li> <li>• Cycleway alongside bus link</li> </ul>	£30m

The report / the Western Orbital Route Consultation is also proposing four P&R and cycle improvement Options, as summarised in Table 2.

**Table 2: P&R and Cycle Improvement Options**

Option	Description	Estimated Cost
A	This option would involve construction of a new Park & Ride west of M11 Junction 11 and north of the A10.	£3.5m
B	This option has all the improvements included in Option A. In addition this Option would include a Park & Cycle at J12, together with cycling improvements on Barton Road.	£7.5m
C	This option has all the improvements included in Option A. In addition this option would include a P&R at J12 (including cycle provision). There are no bus or cycle improvements on Barton Road.	£6.5m
D	This option has all the improvements included in Option A and C as well as cycle improvements on Barton Road.	£7.5m

Plans illustrating the Options set out in Table 1 and Table 2 are provided below:



Source: <http://www.gcocitydeal.co.uk/western-orbital2> (last accessed 25.02.16)

The Western Orbital is already planned for delivery from Histon Road to the West Cambridge site through the delivery of on-site infrastructure through both the NIAB residential development and the

North West Cambridge local centre. This is facilitated through dedicated areas of bus only infrastructure that will be controlled, through the use of bus gates (rising bollards, ANPR cameras) and is being provided as part of the planning consent and development costs.

It is understood that under the proposals being consulted on, buses from Addenbrooke's would travel using the existing infrastructure to the existing Trumpington P&R, and then would continue using a new bus link over the M11 to a new P&R at J11. From here, buses would travel north to J13 (i.e. either on the M11 or off the M11 to the east or off the M11 to the west). From this point, the route would continue through the developments in the north-west and link to the existing services in the north or connect with any of the options being considered as part of the A428 Cambourne to Cambridge scheme.

Having reviewed the Atkins Report, in principle, it is important to emphasise that we support the Western Orbital Route, as a new fast and reliable link for buses between the west and south of Cambridge would facilitate new sustainable development. However, our view is that the location or route of the link, especially with regards existing road / junction capacity, commercial viability and land ownership, needs further consideration.

Whilst the Atkins report is an initial high level report produced for 'Phase 1', and that it is appreciated that Phase 2 will need to include the further development of the identified options, including the following:

1. establishing "do minimum", "do something" and "do max" scenarios in greater detail;
2. carrying out feasibility scheme design and cost estimates;
3. producing an Appraisal Specification Report;
4. testing the shortlisted options using CSRM, having established an appropriate do minimum scenario in the model;
5. assessing in detail the impacts of the shortlisted options;
6. producing an Outline Business Case, non-technical summary and a developer funding technical note.

It is still felt however that a basic comparison could be undertaken to assess each option and this has been undertaken within in this note.

On this it should be noted that in representations to the Cambridge and South Cambridgeshire Local Plans on behalf of North BRLOG, we have referred to the potential for development on land to the west of Cambridge to provide land and contribute towards the delivery of the Western Orbital Route through both infrastructure provision and patronage.

## **Western Orbital Route – On or Off M11**

There are a number of important issues that need to be considered as part of confirming a preferred option for the alignment of any route. The first issue from the consultation appears to be whether the bus link should be delivered on or off the M11 motorway. Without getting into too much detail the two key considerations are as follows:

1. Capacity of the M11 links;
2. Capacity of the M11 junctions and ability to cater for additional movements;

### ***Capacity of the M11 links***

It is important to note that with regards existing traffic on the M11, the Western Orbital Study Options Report prepared by Atkins Ltd notes that 'TrafficMaster data' illustrates that congestion is currently prevalent, particularly on the approach to J13 and on the southbound J11 slip road during the morning peak. The report also acknowledges that going forward there will be an increase in traffic on routes into Cambridge. Specifically, the report notes that modelling forecasts that by 2031 there will be an 88% increase in trips to West Cambridge, a 26% increase to the Science Park and a 23% increase to Addenbrooke's when compared to 2011.

Therefore, given the existing level and anticipated increase in traffic, our view is that it may not be feasible to provide a “new, fast and reliable link for buses” between J11 and J13 of the M11 by simply using the motorway’s existing traffic lanes. In addition, going forward, given the projected traffic volume, a managed motorway scheme, where the hard shoulder is used in combination with variable message signs may need to be introduced for general traffic and consequently it may not be possible to provide specific infrastructure for buses on the M11. Buses using the M11 would therefore likely be subject to high levels of journey time variability, particularly in the morning peaks.

Therefore, it is felt that the on M11 routes, whilst being cheaper than off site solutions will not be workable and may be subject to journey time reliability issues. This option does not also cater for cyclists which is a key objective of the City Deal.

### ***Capacity of the M11 junctions and ability to cater for additional movements***

Further to the issue of running buses along the M11 motorway is the issue of accommodating priority at the junctions. From the work / information presented in the Western Orbital Study Options report, it is unclear what the impact of routing the Western Orbital Bus Route onto the M11 would be on Junctions 11, 12 and 13. For instance, if priority is given to buses, this will inevitably have an impact on the junctions’ general traffic performance. The provision of off-site infrastructure to the east of the M11 will avoid this problem.

Routing the bus link through West Cambridge and through the North BRLOG site would also mean that buses and cyclists would not need to use Junction 13 of the M11 (the junction with Madingley Road), which would be a benefit to both cost and capacity issues at this junction. Depending upon the route taken south of Junction 12 then this may be the same.

## **Western Orbital Route – Comparison of Routes to West and East of the M11**

After the consideration of the M11 options and the preference for an off M11 solution the next issue is whether this new infrastructure should be provided to the west or the east of the M11. This section considers this issue in more detail and will be based on -a number of different issues in order to determine the preferred route for the bus link. These issues can be summarised as follows:

1. Journey time comparisons;
2. Patronage of each option;
3. Interchange with the Radial Route and link with West Cambridge;;
4. Cycling provision;
5. Business case and funding.

### ***Journey time comparisons***

At this stage, there does not appear to be any quantitative work undertaken on journey time comparisons of each option. On reviewing the potential options for providing the orbital link, and in the absence of any detailed data, it appears clear that journey times will be faster, and potentially more reliable, if the bus links were provided to the east of M11. This is based primarily on the fact that the western route will necessitate the crossing of the M11 motorway adding journey times and potentially increasing congestion and journey times for all vehicles through key junctions.

**From a journey time perspective the Eastern link is the preferred option.**

### ***Patronage forecasts***

A clear benefit of routing the Western Orbital Route through the West Cambridge and North BRLOG sites in conjunction with development is commercial viability i.e. less people would be able to access the bus service if it is routed away from residential / employment sites.

At this stage there appears to be no detail within the options report as to the potential patronage forecasts, which will ultimately inform the Business case and the attractiveness of running the service. In order to ensure that the Business case is optimised then it is crucial that West Cambridge is fully served, to augment this. Additional residential development to the south of West Cambridge would add further patronage benefits to the business case, together with providing further funding opportunities.

Any additional journey times will also affect the relative Business case of each option.

**From a patronage perspective the Eastern Link is preferred.**

#### ***Interchange with the Radial Route and Links with West Cambridge***

It is essential that the orbital route links into the heart of West Cambridge to ensure the one of the critical destinations on the route is served properly. There is a possibility to create a key interchange on the West Cambridge site between the radial and orbital routes to achieve this in the most efficient manner. From this interchange (potentially to the south of High Cross) it would be most appropriate to take the most direct link to the south, which would be on a dedicated link to the east of the M11, which would be through the North BRLOG site. This is depicted on Figure 2 contained within Appendix B.

A link to the west of the M11 would make it difficult to properly serve the West Cambridge site without additional diversion of the orbital route with consequential increases to journey times.

**Therefore, in order to provide for interchange at West Cambridge then the Eastern link would be preferred.**

#### ***Cycling provision***

In order to provide for attractive cycling provision along this route then again it would need to be direct, provide reliable journey times and a safe environment. Again, the provision of the link to the east of the M11 meets this objective, whereas a link to the west would potentially not be as attractive as it is not as direct or convenient and would mean that cyclists would need to cross the M11 twice to move orbitally through this part of Cambridge.

Furthermore, if the Western Orbital Route was routed through the North BRLOG site it would provide an opportunity to deliver much needed north / south cycle infrastructure within Cambridge. Although it is noted that the off M11 bus link proposals also include a cycleway alongside the bus link, in our view, providing cycle infrastructure away from residential / employment sites has limited benefits. In our view more data on the business case for the cycleway off M11 bus link is therefore required.

From a cycling perspective it is also preferred that the link is provided to the east of the M11 and links with a Park and Cycle (potentially to the east of junction 12) and ties in with cycle improvements along Barton Road, as highlighted in Option D.

**From a cycling perspective the provision of a new cycle route to the east of the M11 would be the preferred option**

#### ***The business case and funding***

More data on the business case for the proposed routes is required. Notwithstanding this, it is clear that the long term business case for the Western Orbital Route would be significantly stronger if it is routed through key residential / employment areas both existing and proposed (i.e. through the North BRLOG site).

In order to provide for the most robust business case there are a number of key criteria that will need to be met including, reliability, reduced journey times and equally importantly to this will be the need to ensure that patronage is maximised which will mean providing efficient links between different land use types to maximise the number of trips attracted to the routes. Whilst the orbital route tends to serve the major employment sites there is limited residential development along the orbital corridor (with the exception of NIAB and NW Cambridge); this would be improved though the provision of further sustainable residential development to north of Barton Road.

In addition, if the Western Orbital Route was routed through the North BRLOG site, it is important to note that the land required to facilitate the link could be provided as part of the development proposal. With regards routing the Western Orbital Route off the M11 to the east or off the M11 to the west, from the information provided, it is unclear if agreement in principle has been established with the land owners or if purchasing the land required to facilitate the link has been included in cost estimates.

Funding is of equal importance within the Business case. As such, providing for a link to the east of the M11 which could be facilitated through the provision of development infrastructure, would reduce the overall costs of the scheme considerably, thus making the delivery more certain. This would also facilitate public money being spent elsewhere on other important key transport priorities.

A link to the west of the M11 would not facilitate any further development.

**When considering the Business Case for the bus link, the Eastern link is preferable.**

## **Park and Ride and Park and Park and Cycle**

Similarly to the new bus link, it is important to emphasise that in principle we support the provision of P&R / cycle infrastructure. However, from the information available, it is unclear whether there is sufficient City Deal and S106 funding to facilitate both the bus link and also the P&R / cycle improvements or whether the estimated costs are representative, for instance, if the costs include acquiring the necessary land.

Regarding potential P&R sites, it should be noted that in representations to the Cambridge and South Cambridgeshire Local Plans we have referred to the potential for development on the North BRLOG site to provide land and contribute towards the delivery (i.e. cost) of a Park & Ride site – the plan at Appendix B illustrates the preferred location for the Park & Ride site. This means that Options C and D are preferable from a Park and Ride perspective although the preference is for option D as it also includes cycle infrastructure improvements along Barton Road is the preferred option.

The delivery of the Park and Ride sites may also be challenging if a Compulsory Purchase is required. If the Western Orbital was to run to the east of the M11 and helped to enable development on the land to the North of Barton Road then there is the possibility that the provision of the Park and Ride/Park and Cycle to the east of the M11 could be more effectively delivered as part of the development agreement with the landowners, who would potentially be willing partners to this delivery.

There is limited detail within the Atkins reports as to the relative benefits of providing Park and Ride/Park and Cycle on either side of the motorway. However, the report does suggest that the rationale for the new P&R to the west of the M11 at J11 is that it would remove a significant proportion of traffic from M11 J11 as it would remove vehicles from the road before they reach the junction. In our view, this over simplifies what would happen in reality as vehicles coming from the south and the north would use the M11 and J11 to access a P&R to the west of the M11.

It is the opinion of this group that providing these P&R facilities to the east would enable them to be delivered more quickly and would require less dedicated public transport infrastructure to cross the M11, although the Barton Interchange may require some local junction improvements to improve access to the Park and Ride/Park and Cycle facility including resolution of the current issues with the M11 southbound off slip and Grantchester Road.

In summary the preferred location for the Park & Ride would be:

- Junction 12 of M11 – to the north of Barton Road and east of M11;
- On an area for potential highway improvements to road from Coton (along Grantchester Road), to improve relationship with M11 slip road at Junction 12.
- Potential improvements to cycle route along Barton Road.

**As such, the preferred option for the Park and Ride and Park and Cycle is Option D based on this being provided to the east of Junction 12 and should include the provision of the cycle improvements on Barton Road.**

## **Summary**

In summary and having considered the options then the North BRLOG landowners have a preference for the provision of an off M11 link to the east of the M11 that facilitates Park and Ride and Park and Cycle at Junction 12 to the east of the motorway and also provides additional cycle improvements on

Barton Road. This therefore supports Option D within the consultation documentation and is based on the following considerations:

1. The difficulty of running buses along the M11 motorways due to capacity issues;
2. Capacity issues associated with crossing the M11 motorway and the cost of providing additional infrastructure;
3. The benefits of providing a dedicated off M11 bus and cycle link to the east of the M11;
4. The provision of the bus link to the east of the M11 to provide direct linkage between west Cambridge and Junction 11 of the M11;
5. The provision of interchange facilities for both orbital and radial routes on the West Cambridge site;
6. The potential for Park and Ride and Park and Cycle on land to the east of the M11 at Junction 12 to the north or south of Barton Road with associated cycle improvements on Barton Road.
7. An improved Business case delivered through the facilitation of development north of Barton Road;
8. The benefit of development funding the delivery of part of the route between West Cambridge and Junction 12 of the M11;
9. Development funding potentially helping to deliver the Park and Ride and Park and Cycle on land to the east of the M11 at Junction 12;

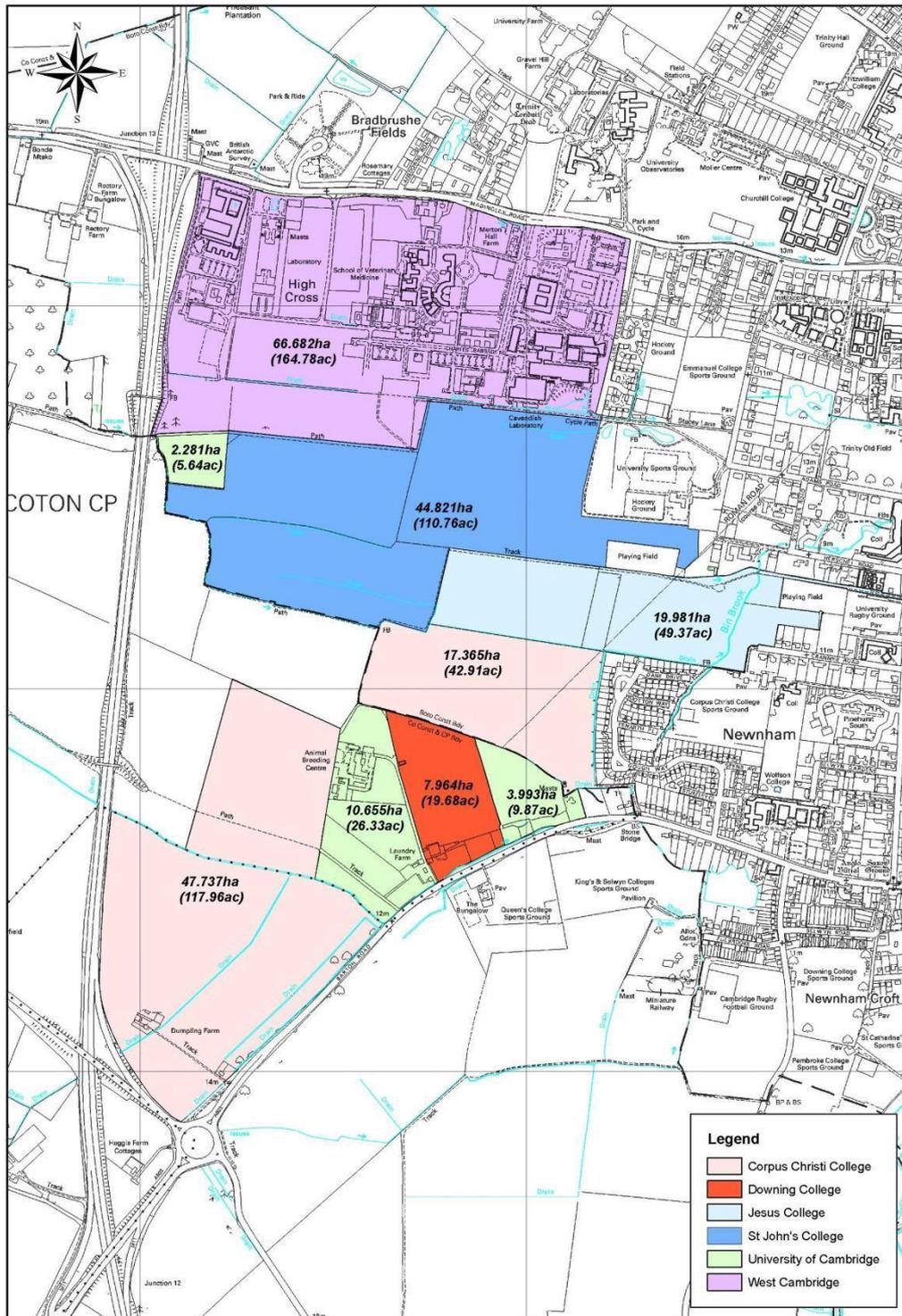
With regards to the above, the Land to the North of Barton Road site offers significant opportunities to enable and encourage a high proportion of the off-site movements to be made by non-car modes. Therefore, the development proposal could not only provide the land and contribute towards the delivery costs of the infrastructure but also could provide patronage (both bus riders and cyclists) which thus improves the schemes long term business case.

Table 3, below, summarises the benefits and disbenefits associated with the Western Orbital Route Options.

**Table 3: Western Orbital Route Transport Summary of Options**

Option	Benefits	Disbenefits
West of M11	<ul style="list-style-type: none"> <li>• Cycle provision can be provided alongside orbital route</li> </ul>	<ul style="list-style-type: none"> <li>• A link to the west of the M11 would make it difficult to properly serve West Cambridge without additional diversion of the Orbital Route with consequential increases to journey time</li> <li>• Not direct for cyclists - for instance cyclists would need to cross the M11 twice</li> <li>• A link to the west would not facilitate further development</li> <li>• A lack of available patronage / business case</li> <li>• Costs associated with the crossing of the M11</li> </ul>
East of M11	<ul style="list-style-type: none"> <li>• Journey time benefits, for instance, it would not be necessary to cross the M11</li> <li>• Commercial viability (i.e. access to patronage)</li> <li>• Cycle provision can be provided alongside bus route / attractive option for cyclists given proximity to city centre</li> <li>• Could tie into cycle improvements along Barton Road</li> <li>• Funded through development infrastructure reducing cost of the scheme</li> <li>• Can facilitate Park and Ride to the east of the M11 on land that may be made available.</li> </ul>	
On M11	<ul style="list-style-type: none"> <li>• Potentially cheapest option – although price significantly increases if for example bus priority, variable message signs, etc. are implemented.</li> </ul>	<ul style="list-style-type: none"> <li>• Buses using the M11 would likely be subject to high levels of journey time variability</li> <li>• Does not cater for cyclists which is a clear objective of the City Deal</li> <li>• Providing priority for buses at junctions likely to impact on the junctions general performance / be expensive</li> <li>• No available patronage on M11</li> </ul>

# APPENDIX A: LAND OWNERSHIP PLAN



A.45,527



## APPENDIX B: Plan illustrating dedicated link to the east of the M11

