

The following are written responses from officers of the Greater Cambridge City Deal partnership to public questions submitted to a meeting of the Executive Board on Thursday 13 October 2016 to which a written and published response was agreed.

All other public questions with responses form part of the minutes of the Executive Board meeting available at www.gccitydeal.co.uk Meetings and Minutes/Executive Board.

Councillor Bridget Smith (Lib Dem), South Cambridgeshire District Council:

Request to speak as Vice-Chairman of the A428 Local Liaison Forum and as a South Cambridgeshire District Councillor.

As a South Cambs councillor I am obviously extremely keen to ensure that as many South Cambs residents as possible benefit from the GCCD. As things stand with the A428 proposals it is all very City focused and fails to acknowledge that South Cambs residents need to get anywhere other than the City or that they also may experience congestion, disruption and high costs getting to their workplace destinations.

Q1: How many people of working age currently live in Cambourne and of those, how many work in Cambridge?

A1: According to the 2011 census, the population of Cambourne was 7,185 people of which 4,826 were between the ages of 16-64. There were 3,746 employed people in Cambourne, of which 1,096 work in Cambridge (source; 2011 National Census).

The Cambridge and South Cambridgeshire population totalled approximately 275,000. Population growth in Cambridgeshire as a whole from the 2001 to 2011 census was faster than in any other English county.

The Greater Cambridge City Deal working in partnership:



By 2031, now just 15 years away, the population is projected to increase by another 70,000 – to 345,000. This will significantly increase the demand for transport.

The Local Plans are planning for (by 2031):

- 33,500 extra houses;
- 44,000 extra jobs.

In overall terms, as a result of this growth there will be significantly more trips, placing significant additional pressure on the transport network and (in particular) areas of existing congestion on major road corridors such as the A428. Bus services have a vital role to play in mitigating the potentially negative impact of these demographic trends by providing reliable sustainable alternatives rather than increasing car usage and traffic.

Q2: How many additional people of working age will be living in the new developments at Cambourne West and Bourne Airfield and is it likely that a similar percentage will be commuting to Cambridge from these new developments?

A2: The future occupancy of households and composition in terms of working age is presently unknown, the exact population would be resultant from the planning consent process. However, some parallels can be drawn using census data. Bourn ward, based on 2011 census data is 2.74 population per dwelling. Around 64% were age 16 to 64. On this basis, 3500 dwellings at Bourn Airfield would equate to 9590 population. The Cambourne West Planning Application of 2350 dwellings would equate to 6,439 population, although note that the Local Plan allocation is lower, at 1250 dwellings.

The final population of new developments will depend on the dwelling and land use mix that is determined through the more detailed planning application process.

Q3: How many people from Cambourne commute to the main line station in St Neots and are any of them able to do so by bus?

A3: This number is unknown, as the station is likely to be a stop on a longer trip. It is unlikely that they are able to do so by bus, as the X5 does not stop at Cambourne. Commuters wishing to make this journey by bus would have to take the Citi4 to Madingley Road Park & Ride and then board the X5 there, which is impractical.

Q4: Why is the City Deal so focused on getting buses into the centre of Cambridge when that is not generally where people work?

A4: Cambridge is a significant employment focus for the sub region, and also subject to the greatest transport constraints. The Cambourne to Cambridge Better Bus Journeys Scheme assumes the centre of Cambridge as a key destination in the Greater Cambridge sub region in addition to employment sites at the fringe of the City. There is a separate City Deal project (Western Orbital study) which is considering the linkages between the fringe destinations which will align with this study. Therefore strategically, the combined City Deal projects will provide high quality public transport linkages into the city centre, as well as between key employment and housing growth sites around Greater Cambridge.

It is expected that of every four eastbound buses entering the west of Cambridge, 1 bus will travel north around the city, and 1 bus will travel south (see Table 11-2 in Appendix A of the economic case for current assumptions). The National Travel Survey indicates that some 28% of all trips within the AM peak period are work/business related and that some 48% of trips are education related, so the demand for access to the city should be considered for all journey purposes as well as work. There is also the desire for retail trips, visiting trips and leisure trips and, from a transport and movement point of view, providing direct access to the city centre for all purposes can only be seen as beneficial to reducing car traffic on local roads.

Q5: Would it not be more sensible to run buses to a series of Transport Hubs located before the congestion pinch points (e.g. Maddingley Rd P and R) and for either those buses to continue to the key employment sites e.g. Addenbrooke's, the Science Parks, or for passengers to be able to transfer to buses destined for the employment sites, rather than have to travel into the city centre only to have to travel out again?

A5: To secure future economic growth and quality of life, Greater Cambridge has to grow physically, while allowing easy movement between major employment and residential areas. The City Deal will invest in enhancing transport infrastructure that makes it easier for people to travel between places of work, and home, using sustainable modes of transport, reduce congestion and support our city region's connectivity with regional and national transport networks.

The western area of the city, and existing and proposed new settlements to the west, contain both housing and employment development areas which will generate increased demand on the transport network. The Local Transport Plan (LTP), the Transport Strategy for Cambridge and South Cambridgeshire (TSCSC), and the Cambridge and South Cambridgeshire Submitted Local Plans envisage enhanced transport infrastructure by non- car modes to provide sustainable transport links to address this increased demand. Without this planned mitigation, this growth will have an adverse effect on highway congestion levels and journey times affecting quality of life and potentially constraining further growth. The City Deal is also looking at orbital links to get to a range of employment locations, rather than a single location of the city centre.

Dr Gabriel Fox

The total project cost for the proposed segregated Cambourne-Cambridge busway is in the region of a staggering £200 million, including land purchase, busway construction, a new bridge, ongoing maintenance, bus operator subsidies and so on.

With likely legal costs it could be even more. To put that into context, that amounts to over £25,000 per working day for the next 30 years; or, looked at another way, over £250,000 for each of the 780 additional jobs projected to be delivered in the area as a result of the scheme. Can this possibly, by any measure, be a sensible use of taxpayers' money?

Let's look at it another way: for substantially less than half of that £25,000 per working day, you could buy a 55-passenger Boeing Chinook helicopter, pay for the crew, maintenance, fuel, etc, and run morning and afternoon shuttles from Cambourne and Bourn Airfield to Cambridge, Addenbrooke's, the Science Park or wherever else the jobs are to be created. Given your obsession with journey times, you would be delighted to know that the flying time, at the Chinook's cruising speed of 184 mph, would be a mere 3 minutes, about one-fifth of even the speediest segregated bus.

The proposal is spectacularly extravagant. An important clue to this is that the benefit-cost ratio is a paltry 0.2. This project costs FIVE TIMES as much as it delivers in benefits. Under DfT guidance this is "poor" value for money, the worst of the five categories. And there is no earthly prospect that the BCR will go up sufficiently ever to make this scheme acceptable value for money. But the officers' recommendation ignores this and instead uses a made-up metric, the "Multi-Criteria Assessment Framework", to support their recommendation.

Under this MCAF, option 3 scores 73 points, a narrow 5 points ahead of the "low intervention" option 1. No serious observer would place any faith in this MCAF score, nor would they consider the 5-point difference to be significant. Worse than that, the scores themselves do not stand up to any kind of scrutiny. For example:

- HQPT attributes: why has option 1 been scored so much worse than option 3 in terms of vehicle fleet, ride quality, RTPI, branding or ticketing? Why can't the same features be adopted in any of the options?*
- Walking/cycling infrastructure: why does a non-segregated or on-road option preclude improving walking/cycling infrastructure? For example, option 1 could be combined with a separate off-road cycleway, which would be far preferable for most cyclists.*
- Disruption to existing traffic during construction: how can construction of a complete motorway bridge result in less traffic disruption than putting a bus lane on Madingley Rise?*
- Who determined that putative improvements in walking infrastructure have the same scoring weight as a £165 million difference in project cost?*
- Constructability risk: how can a solution primarily using existing infrastructure earn a risk score of 2 when a brand new busway with a brand new motorway bridge has a risk score of 1? Why does option 1 not score 5 points?*

- *Biodiversity impact: why would running buses on existing roads have a large adverse biodiversity impact, no different to carving a brand new busway through green fields? Should option 1 not score 5 on that?*
- *How are “operability risk”, reliability” and “level of service” meaningfully different from each other? Is that not just a mechanism for giving a segregated busway 15 easy points?*

There is a perfectly reasonable and hugely more cost-effective option involving:

- *a route from Cambourne to Madingley Mulch which uses uncongested existing infrastructure as much as possible;*
- *then a segregated bus lane inbound on Madingley Rise (the Atkins technical note makes it clear that outbound delays are minimal and do not warrant segregated provision, though there is the potential to convert it later to tidal operation if you need “future-proofing”);*
- *then use of the existing M11 bridge;*
- *and finally a route through the West Cambridge site to Grange Road avoiding the West Fields.*

This would still have a journey time in the region of 20 minutes each way and would score a massive 105 on your MCAF metric, against 73 for option 3, including 65 (versus 57) for strategic fit. It would have a benefit-cost ratio even at this stage in excess of 1 and generate “wider economic benefits” not significantly different from option 3, once appropriate sensitivity analysis was included. An element of segregated off-road busway could even be incorporated between Cambourne and Bourn Airfield to allow the scheme to be presented as “involving a busway” if that is deemed important to satisfy the Local Plan inspector in respect of transport links.

Q: Given that there is a legal obligation on public bodies to get “best value” in procurements, defined as “the optimum combination of whole life costs and benefits to meet requirements”, how can the Board justify pursuing an inappropriate, poor value and unwanted scheme when a far superior scheme is available?

A: The Cambridge to Cambourne Better Bus Journeys scheme objective is to deliver new high quality public transport infrastructure to achieve improved connectivity and reduced congestion between residential and employment areas and improving quality of life.

- Generally the strength of a brand is built upon its reliability. Segregated off line bus routes such as the exiting Busway provide the highest level of reliability. High quality public transport is a feature of busway routes. For instance the standard of the buses used can be specified within a Bus Quality Partnership arrangement as part of the Agreement between the bus operators and asset owner a so achieve High Quality Public Transport.
- Option 1 includes online eastbound bus lanes from the A1303 / A428 junction along Madingley Rise and Madingley Road. The option does not allow for a two lane bus lane within the existing Highway corridor. Ad such the

introduction of a single bus lane would not accommodate improved cycle provision. Indeed along certain sections of the Highway corridor it might be detrimental to the standard of the existing pedestrian and cycle provision

- Traffic disruption is a consequence of the construction of any major transport infrastructure scheme. This is mitigated and controlled by effective construction programme phasing and traffic management measures. The construction of a new segregated route leaves the majority of the existing highway unaffected by the works and causes the least traffic disruption. Option 1 would have the highest impact on the existing highway and cause the most traffic disruption during construction.
- The Option Assessment Report (OAR) prepared by the project team assesses and summarises a range of technical information contained within the strategic Outline Business Case. The Strategic Outline Business Case appraisal uses the Department for Transport WEB based Transport Appraisal Guidance (TAG). At this Step of the scheme development process, given that the focus and resources are on ensuring the strategic decision to select a preferred option for further detailed development is made, the main due consideration is given to the strategic fit of each option. This includes an outline assessment of the range of potential costs and benefits
- The Option Assessment Report (OAR) assesses and summarises a range of technical information for the Cambourne to Cambridge Better Bus Journeys Scheme. As part of the ongoing scheme development to delivery, a risk management processes is employed and risks are continually identified, assessed and managed. An example of a significant risk against Option versus the Recommended option is noted above that is Option 1 would have the highest impact on the existing highway and cause the most traffic disruption during construction.
- The Multi Criteria Assessment Framework (MCAF) is an appraisal tool used to assess the Strategic Fit of the Options has been assessed by the extent to which they align with The scheme aims to deliver new High Quality Public Transport infrastructure and the City Deal objectives to achieve improved connectivity and reduced congestion between residential and employment. The MCAF rates all Options biodiversity potential impact, without mitigation based upon the high level desk top assessment done to date and adopting the worst case assumption at this stage. Further scheme development would be required to assesses these impacts and proposed mitigation where required
- These refer to both the functionality and standards of the scheme this qualitative comparable assessment of the options is used to test against the policy and objectives of the scheme, it's Strategic Fit. This is an established method and within the TAG approach providing a reasoned way of determining the Strategic Outline Business Case.

The higher cost recommended option represent a longer term investment in the capacity of the area to accommodate the growth anticipated up to 2031 and thereby directly support planned development. The recommendation is that given the GCCD is ultimately about providing long term investment that supports jobs and housing growth

Roger Tomlinson

The economic case for Option 3/3A of the “Cambourne to Cambridge Better Bus Journeys” project claims a “£680 million overall contribution to economic growth”. This appears to have been based on a forward projection of 786 new jobs being created in the corridor as a direct result of the supposed improvement in journey time offered by a segregated busway from Cambourne to Grange Road.

Q: Can you explain/clarify and justify the following: (i) the mathematical basis of this calculation and specific causality; (ii) any assumptions behind the projection of 780 new jobs; (iii) how you have modelled the impact of journey time and/or reliability on the estimated number of jobs; (iv) the degree of uncertainty around the estimated new jobs figure, e.g., confidence interval or margin of error.

A: The approach follows development economic principles and these have now been included in the draft WebTAG guidance on wider economic benefits. TAG Unit 5.3 at link below provides an overview of the approach and our method fits with ‘Additionality Modelling’;

<https://www.gov.uk/government/consultations/transport-investment-understanding-and-valuing-impacts>

- i. This is clearly set out in report but the above link will illustrate the steps in the method
- ii. This is clearly set out in the report. The 780 jobs are what we believe to be attributable to the scheme given levels of demand and market attractiveness.
- iii. This is lined to the above response.
- iv. This is not a mathematical forecasting exercise the number of jobs attributed are linked to the growth trajectory and allocated development sites in the Local Plans So the assessment made is time bound by the Local Plan period.