

**LOCAL PLAN EXAMINATION
CAMBRIDGE CITY & SOUTH CAMBRIDGESHIRE**

**MATTER 7
STRATEGIC TRANSPORT ISSUES**

**PREPARED BY
NICK ANDERSON AND ALEX KEENE (AECOM)**

**ON BEHALF OF
PIGEON LAND AND LANDS IMPROVEMENT HOLDINGS**

1. Introduction

- 1.1. This statement has been prepared on behalf of Pigeon Land and Lands Improvement Holdings. It should be read in conjunction with previously submitted representations (ref 27628, 59925, M5/5102 and M5/20801) and attached appendix.
- 1.2. Our reasoning for the Local Plans being unsound and how they can be made sound is presented in M5/5102 and M5/20801. Furthermore we contend that based on the evidence that has been presented below and across the hearings to date the Local Plans have not been positively prepared. The strategy does not meet objectively assessed development and infrastructure requirements and is not consistent with achieving sustainable development. The strategy has not been developed with a full consideration of appropriate alternatives or an adequate evidence base.

2. Matter 7A Questions***i. Are all essential transport schemes / improvements identified in the Plans and is it clear how they will be delivered?***

- 2.1. Much of our response to this point is covered in our written Matter 5 statement (M5/5102 and M5/20801). However, a number of points were raised during the Matter 5 hearing which are worth considering further at this point.
- 2.2. The Councils indicated that the delivery of the required infrastructure should be simple and will be delivered as required in line with development coming forward, saying “as soon as possible” when challenged on delivery timescales. This “wait and see” approach does not indicate a clear strategy for the delivery of major infrastructure.
- 2.3. The development projections for Bourn Airfield and West Cambourne indicate housing delivered ahead of infrastructure, raising questions on access to these areas. It also potentially limits sustainable transport options in the early years when travel behaviour is established.
- 2.4. The Councils were unable to confirm where or how contingencies had been identified in the event of non-delivery of particular measures, given that the measures had not been assessed individually.

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- 2.5. The delivery of major infrastructure is rarely simple. In Cambridgeshire this is evidenced by the time taken to deliver the Guided Busway and A14 improvements. The programme for the A14 still appears optimistic and there must be doubt whether this will be delivered in the first 5 years of the Plans to unlock the planned growth at Northstowe.
- 2.6. It is also doubtful that the Councils have a strong enough record on the securing of significant sums of money or delivering major infrastructure projects to use this as an indication that they can deliver the Strategy. Northstowe is again a good example. It has not been successfully delivered to date and is only going to deliver a reduced 20% affordable housing allocation on the site given viability concerns.
- 2.7. The Plans are underpinned by very expensive transport infrastructure requirements, with significant concerns relating to their funding. These include:
- The Councils' acknowledgement that the Infrastructure Delivery Study Update 2013 (RD/T/020), which informed the Local Plans, does not specifically identify how the significant funding gap (more than £300million on transport alone) would be funded.
 - The Councils' subsequent reliance on the City Deal, despite:
 - Only £100m of funding being guaranteed, to be spent by 2020.
 - An identified shortlist of schemes for funding which would be most deliverable in the first 5 years to deliver economic benefit and support early growth, including measures to support Bourn Airfield, costing some £186m. Given the prioritisation of schemes, there is significant doubt on the deliverability of the improvements required for Bourn without additional funding sources.
 - It is unclear how it can be proven that the City Deal funding has driven economic growth prior to the 2019 assessment for the second tranche of £200m, given lead times for infrastructure planning and delivery and the subsequent delivery of houses and jobs. Cambridgeshire County Council have identified that of the prioritised schemes, three have an earliest completion date of 2019 and a high risk of delay to their start (Appendix 1, Pg.5). Officers' confirmed that they have not seen a copy of the City Deal

agreement, and are either unwilling or unable to confirm what triggers will need to be met in order to secure further funding beyond this £100m. If this information is not in the public domain, there is significant doubt it can be proven that there is a reasonable prospect that planned infrastructure is deliverable in a timely fashion.

- Confirmation that following the identification of a preferred scheme option, a business case will be needed to obtain the necessary funding. Some of the schemes must be questionable on value for money grounds which would be expected to be proven as part of the business case. Further time and risks are associated with negotiating the planning process and acquiring the necessary land, potentially through Compulsory Purchase Orders, even before detailed design and construction can be undertaken.
- In addition to the identified funding gap, the reliance on substantial private sector funding for transport infrastructure (in excess of £470million), which City Deal money is not intended to be used to offset. Issues include:
 - Securing potential S106 funding to deliver infrastructure prior to housing development. However private funding is secured it is a considerable burden on the developments which may make them unattractive to investors.
 - The viability study supporting the Plans does not take into full account the level of private funding required, having been produced before the finalisation of the IDS Update. The figure of £43,500 per dwelling for transport infrastructure associated with Waterbeach is more than double that assumed by the Councils' viability consultants for all S106 contributions (transport and other infrastructure) per dwelling. This suggests a £188million black hole on Waterbeach on transport infrastructure alone, with City Deal not intended to plug the shortfall in private funding and the strategic sites not subject to CIL. It is not clear at what point it is intended to update the viability study to reflect the revised infrastructure costings, noting its importance to the Local Plan process, or why this cost over and above the anticipated S106 contributions in the viability study does not form part of the IDS Update funding gap.

2.8. Further details relating to funding issues are provided in our Matter 5 response.

ii. Do the Plans adequately reflect the Local Transport Plan (LTP) and the Transport Strategy for Cambridge and South Cambridgeshire (TSCSC)?

2.9. While the LTP has recently been updated to reflect the proposed Local Plans and the TSCSC, the Local Plans are still not fully consistent with the LTP's key objectives.

2.10. The LTP identifies the need to promote an efficient and effective transport network to enable people to thrive and promote improved skill levels and economic prosperity (Objectives 1 and 4). Objective 3 deals with the development of sustainable communities by discouraging car use where alternatives exist and encouraging sustainable modes of transport, and influence planning decisions to co-locate housing with jobs and services to reduce the need to travel. To meet the challenge of climate change (Objective 5), actions are required to address traffic growth.

2.11. The proposed growth strategy is not consistent with these objectives. The isolated location of the new settlements in relation to Cambridge means that active and public transport travel will be very limited. As considered later, the sustainable mode shares identified within the TSCSC evidence base do not suggest significant public transport demand from the new settlements, but continued reliance on car use. Combined with the proposed significant infrastructure spending, including on major highway interventions, this does not suggest an efficient or effective transport network.

2.12. TSCSC Policy 2 indicates that general traffic levels will need to remain at current levels. No evidence appears to be presented to indicate that this is achievable with the proposed growth strategy. Appendix E of the CSRM Modelling Report (RD/Strat/160) indicates significant growth in travel distances, duration and delay on the highway network between 2011 and 2031.

2.13. Considered further, it appears the Local Plan growth strategy has driven the development of the TSCSC rather than the TSCSC inform the Local Plans. As evidenced in the Hearing 5 written and verbal statements, the chronology of the processes and lack of consideration given to transport sustainability in the development of the new settlement growth strategy clearly shows that the work underpinning the TSCSC is more to justify a predetermined growth strategy than truly act as a robust evidence base for identifying a sustainable development strategy.

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- 2.14. This is best evidenced by the dropping of sites on the edge of Cambridge following Phase 1 of the supporting modelling. The Modelling Report indicates that the District and City Councils did not consider that these were reasonable options for further testing when considered alongside other planning considerations.
- 2.15. The Modelling Report provides little information to explain the assumptions behind the Phase 1 modelling. Page 3 suggests that there would be 6% more car trips per household further from Cambridge compared to those in or near Cambridge. It then attempts to downplay this by suggesting the net impact is minimal compared to the overall level of trips in the District. It also suggests that the net benefit of developing in more sustainable locations is eroded by suppressed demand using any space freed up on the network. The lack of information to quantify these latter two points does not allow a true comparison of the relative performance of the alternative growth strategies.
- 2.16. Information requested from Cambridge County Council's consultants and presented by another objector (Ref M5/5423 and M5/17653, Appendix 1, Table 2.1) indicates that the urban fringe would be expected to have around a 25-30% lower car driver mode share in the AM peak than outer fringe or rural settlements, with a similar difference in active modes. The average trip from the urban fringe is also shorter given distances to employment and facilities in Cambridge.
- 2.17. Combined with the way it presents the information, the Modelling Report appears to misrepresent the transport case for urban / fringe development.
- 2.18. This raises serious concerns about the message being presented in the report. It is not clear if the Local Planning Authorities were fully informed about the potential transport benefits of fringe locations. The chronology of the studies underpinning the Local Plans means that when the decision was taken to consider only New Settlements and Village based options further, the cost of the infrastructure to deliver these had not been identified. No evidence has been provided to suggest officers had an accurate understanding of the significant costs involved or that councillors were aware of the level of these costs.
- 2.19. The costs were also not identified in the Issues and Options 2 consultation. The key stakeholders, including the public, were therefore not fully informed in terms of the costs associated with pursuing these growth strategies when asked to consider them.

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- 2.20. Similarly, no indication of the costs to deliver alternative urban or fringe development has been provided by the Councils. With the lack of appropriate modelling, there has not been suitable comparative assessment of the implications for urban / fringe settlements compared to new settlements / village development.
- 2.21. The alternative explanation is that these potential benefits were identified to the Local Authorities, however transport considerations were not given particular weight in the development of the strategy. The Modelling Report subsequently glosses over the potential benefits of urban / fringe sites, while overstating the potential transport sustainability of the new settlements, to support the predetermined growth strategy.
- 2.22. The sustainability of travel does not appear to have been suitably considered as part of the Local Plan process, with other planning decisions dictating the transport strategy. Given the continued pull of Cambridge economically, this results in development unsustainable in transport terms, despite significant transport infrastructure spending.

iii. Does the Transport evidence base, including, comply with paragraphs 54-001-20141010 to 54-011-20141010 of Planning Practice Guidance?

- 2.23. The TSCSC evidence base provides a high level assessment of the Local Plan growth strategy. There has not, however, been a suitable assessment of the potential alternatives to the identified strategy which would facilitate the use of sustainable modes of transport, as required by Paragraph 54-003-20141010. The proposed strategy does not effectively encourage sustainable travel, given the distances between the new settlements and Cambridge and the subsequent limited sustainable mode shares identified for these developments. There has also not been an assessment of the “alternative allocations or mitigation measures which may improve the sustainability, viability and deliverability of proposed land allocations (including individual sites) provided these are compliant with national policy as a whole”.
- 2.24. While there has been a comparison of the new settlement and dispersed village growth strategies, the relative merits of other urban or fringe development have not been comparably considered. The benefits or otherwise of individual transport

infrastructure, either to support the new settlements or another growth strategy, have also not been considered.

- 2.25. These points are also appropriate to Paragraph 54-005-20141010, which indicates that, as part of the baseline for a transport assessment to inform the Local Plan, solutions should be identified to support a pattern of development that, where reasonable to do so, facilitates the use of sustainable modes of transport. The proposed strategy is not sustainable and, as shown through Matters 2, 5 and 6, there are alternative more sustainable development locations.
- 2.26. There is insufficient evidence presented in the Local Plans and supporting information to confirm if the requirements associated with the transport assessment of the Local Plan, as indicated in Paragraphs 54-005-20141010 to 54-008-20141010, have been appropriately considered / modelled.
- 2.27. PPG also requires consideration is given to DfT Circular 02/2013. Paragraph 12 of the Circular indicates that “Local Plans provide an opportunity to identify and support a pattern of development that minimises trip generation at source and encourages the use of sustainable modes of transport, minimises journey lengths for employment, shopping, leisure, education and other activities, and promotes accessibility for all.” Given the evidence presented, the Local Plans do not do this.

iv. Will the Plans encourage the use of sustainable modes of transport?

- 2.28. The extensive, and expensive, proposed package of transport measures fails to deliver sustainable development. This is because it fails, unsurprisingly, to overcome the issues associated with the location of the planned new settlements, as walking and cycling are not a practical alternative to the car for most trips beyond the settlement. The evidence presented as part of the TSCSC also does not suggest significant public transport use, despite the proposed investment.
- 2.29. As presented at the Matter 4 and 5 hearings, there remains a requirement for local affordable housing to support the developments at Addenbrookes. Businesses are also unwilling to take up employment space beyond Cambridge. The attraction of the Cambridge Cluster for employers is based on being within a short distance of similar firms and support services to foster face-to-face relationships important to the R&D sector.

- 2.30. The proposed growth areas are relatively isolated however, particularly compared to the excellent accessibility of fringe development. This is highlighted in Figures 1-10 in Appendix 6 of our Matter 5 representations.
- 2.31. The CSRM Modelling Report looks to justify the strategy and how it could be considered sustainable. Phase 2 of the Modelling Report assessment focussed on the implications of new settlements and village expansion options. The strategy does not provide information relating to the relative performance of the Cambridge urban/fringe.
- 2.32. The Modelling Report attempts to promote the effectiveness of the unsustainable growth/transport strategy:
- Waterbeach has a larger number of walk and cycle trips to Cambridge compared to the village development strategy. (Pg.4)*
- 2.33. From Waterbeach, Cambridge City Centre is approximately 8 miles and the Science Park 5 miles. It is unlikely that commuters will walk these distances while cycling will not be that attractive. The word larger is misleading. This does not indicate that there will be a large number just that there would be more than would cycle from village development.
- 2.34. While the Modelling Report suggests large percentage changes in public transport use, Page 4 actually shows that even with significant sustainable transport infrastructure, the forecast AM public transport mode shares for Waterbeach and Bourn Airfield would only be a relatively low 6% and 7% respectively. Around 60% of trips would be made by car. The settlement locations mean that the car will remain the dominant form of transport.
- 2.35. These figures compare very unfavourably to existing transport trends, i.e. without the level of infrastructure being proposed to support the growth strategy, for locations closer to Cambridge (M5/5102 and M5/20801 Appendix 1, Pg.1, Tables 1&2).
- 2.36. This highlights the Plans' failure to meet with one of the NPPF core objectives to make the fullest of opportunities to increase non-vehicle travel movements. The investment will not make an unsustainable location sustainable.
- 2.37. The Modelling Report (Pg.8, 2nd chart) highlights that car journey times will increase significantly with or without the package. Improvements to public transport journey

times on some corridors will only be of benefit to the limited number of people forecast to use public transport. It also identifies significant increases in journey time from Bourn for both car and public transport.

- 2.38. Appendix E of the Modelling Report indicated that while the overall number of vehicle kilometres travelled is anticipated to increase by 28% between 2011 and 2031 in Cambridge and South Cambridgeshire with the modelled level of growth and assessed transport strategy, there would be a 105% to 113% increase in the level of delay. The level of increases in both distance and delay would be greater in the South Cambridgeshire District than Cambridge and does not suggest a sustainable growth strategy supported or mitigated by investment in transport infrastructure.
- 2.39. The issue of sustainability goes beyond mode shares. The SEA for the LTP3 update identifies a number of potential environment concerns associated with the LTP3 update. The SEA identifies that as part of mitigating the impacts, the first step should be to review the number of interventions to determine if they are needed. The building of the transport infrastructure is identified as potentially having impacts on Greenbelt, countryside, biodiversity and geodiversity and soil resources and quality. Cambridgeshire County Council acknowledged that schemes may be altered at a later stage if the environmental impact is found to be too high. As well as the uncertainty in delivery terms, this indicates a potential additional sustainability concern with pursuing this growth strategy.

Word Count (3,000 words excluding paragraph numbers)



2 January 2015

To: Members of the Greater Cambridge Joint Assembly:

Councillor Tim Bick	Cambridge City Council
Councillor Kevin Price	Cambridge City Council
Councillor Martin Smart	Cambridge City Council
Councillor Roger Hickford	Cambridgeshire County Council
Councillor Maurice Leeke	Cambridgeshire County Council
Councillor Noel Kavanagh	Cambridgeshire County Council
Councillor Francis Burkitt	South Cambridgeshire District Council
Councillor Bridget Smith	South Cambridgeshire District Council
Councillor Tim Wotherspoon	South Cambridgeshire District Council
Claire Ruskin	Cambridge Network
Sir Michael Marshall	Marshall Group
Andy Williams	AstraZeneca
Anne Constantine	Cambridge Regional College
Jane Ramsey	Cambridge University Hospitals
Helen Valentine	Anglia Ruskin University

Dear Sir / Madam

You are invited to attend the next meeting of the **GREATER CAMBRIDGE CITY DEAL JOINT ASSEMBLY**, which will be held in the **COUNCIL CHAMBER, FIRST FLOOR** on the first floor at **SOUTH CAMBRIDGESHIRE HALL** in Cambourne on **MONDAY, 12 JANUARY 2015** at **3.30 p.m.**

AGENDA

PAGES

- 1. Appointment of Chairman**
To appoint a Chairman for the Joint Assembly
- 2. Appointment of Vice-Chairman**
To appoint a Vice-Chairman for the Joint Assembly
- 3. Apologies for absence**
To receive any apologies for absence
- 4. Declarations of interest**
To receive any declarations of interest from Members of the Joint Assembly in respect of any items on this agenda
- 5. Questions by members of the public** **1 - 2**
To receive any questions from members of the public. The standard protocol to be observed by public speakers is attached

6. **Petitions**
To consider any petitions that have been received
7. **2015-20 prioritised infrastructure investment programme** **3 - 60**
To consider the attached report
8. **Funding of City Deal non-project costs** **61 - 72**
To consider the attached report
9. **Affordable housing delivery**
To receive a presentation by Alex Colyer, South Cambridgeshire District Council's Executive Director (Corporate Services)
10. **Joint Assembly work programme and schedule of future meetings**
To discuss the Joint Assembly's work programme and schedule of future meetings

Agenda Item 5

Questions by the public and public speaking

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

- (a) notice of the question should be given to the Democratic Services team at South Cambridgeshire District Council (as administering authority) by 10am 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 Joint Assembly, nor any matter involving exempt information (normally considered as 'confidential');
- (c) questioners cannot make any abusive or defamatory comments;
- (d) if any clarification of what the questioner has said is required, the Chairman will have the discretion to allow other Assembly members to ask questions;
- (e) the questioner will not be permitted to participate in any subsequent discussion and will not be entitled to vote;
- (f) the Chairman will decide when and what time will be set aside for questions depending on the amount of business on the agenda for the meeting. Normally questions will be received as the first substantive item of the meeting;
- (g) individual questioners will be permitted to speak for a maximum of three minutes;
- (h) in the event of questions considered by the Chairman as duplicating one another, it may be necessary for a spokesperson to be nominated to put forward the question on behalf of other questioners. If a spokesperson cannot be nominated or agreed, the questioner of the first such question received will be entitled to put forward their question.

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Agenda Item 7



Report To: Greater Cambridge City Deal Joint Assembly

12 January 2015

Lead Officer: Graham Hughes, Cambridgeshire County Council

2015-20 prioritised infrastructure investment programme

Purpose

1. To consider proposals for the transport infrastructure investment programme for delivery from 2015/16-2019/20 as part of the Greater Cambridge City Deal, supported by economic assessment work, and to provide advice to the Executive Board on recommendations for a robust and deliverable programme to 2020.

Recommendations

2. It is recommended that the Assembly:
 - (a) Consider the outcomes of the work undertaken to help identify a recommended prioritised programme for 2015/16-2019/20; and
 - (b) Endorse the prioritised programme set out in Table 1 and explained in paragraphs 50-52, to be recommended to the Executive Board for consideration at its 28 January 2015 meeting.

Reasons for Recommendations

3. Following the steer of the Shadow Board, relevant Committees at the three partner Councils and feedback from Member and stakeholder briefing sessions, officers commissioned an independent economic assessment and prioritisation of the proposed City Deal infrastructure schemes to help assess their anticipated economic impacts. This has been paired with an evaluation of the deliverability of the various schemes.
4. The recommended prioritised infrastructure investment programme for tranche 1 of the City Deal (2015/16-2019/20) is the result of this combination of prioritisation according to economic impact and deliverability, and is therefore considered to represent a robust and deliverable programme for this period.

Executive Summary

5. The local partners committed as part of the City Deal to decide by the end of January 2015 on the prioritised infrastructure investment programme for tranche 1 of the City Deal. Work has been commissioned to assess economic impacts and develop a model to test the likely benefits of the proposed schemes. Alongside this, officers have evaluated the deliverability of those schemes. The recommended tranche 1 programme included in this paper is drawn from a combination of this work around

prioritisation and deliverability. The prioritised list reflects the current situation and the submitted Local Plans. The list will be kept under review as the Local Plans continue through the examination process.

6. The model allows an analysis of the relative housing and employment effects of the various schemes. In order to evaluate the direct impact of the various schemes on development sites, consideration is given to the criticality of the various schemes to each key development site. The methodology, data sources and assumptions are explained in the Transport Economic Appraisal Report (TEAR) in Appendix A.
7. At the current time there is not a great deal of specific information available for the various schemes – that information will emerge as scheme development work is undertaken – so officers have estimated using all available information how long the various schemes are likely to take between the decision to begin scheme development and the opening of the scheme. Each scheme has an evaluation made of the risk of delay to start, considering its contentiousness and complexity. Those schemes that are not considered to be deliverable until the end of the tranche 1 programme period, if not later, are therefore not recommended to be progressed as part of tranche 1.
8. It should be recognised that the scheme cost estimates in this programme are outline and indicative at this point. More work is needed to develop the options and detailed business cases to clarify cost estimates. This paper recommends significantly more than £100 million of schemes, recognising additional known funding already in place, and that other sources of funding will contribute towards the programme in line with the terms of the overall City Deal. Funding will be required from a mix of funding sources to support the delivery of infrastructure improvements.
9. The recommended tranche 1 programme is shown in Table 1 below. This draws upon the prioritisation shown in Appendix B, weighted by scheme cost to recognise the anticipated value for money of the various schemes, and the evaluation of deliverability. The priority schemes are recommended to be agreed as the tranche 1 programme, subject to review as the Local Plans continue through the examination process.
10. Further reserve schemes are proposed to be worked up as part of the tranche 1 programme, which would enable them to be delivered in place of a prioritised scheme if considered appropriate at a later date.
11. In addition it is proposed during the tranche 1 period to undertake scheme development work for schemes that are likely to form part of the tranche 2 programme. An allocation for programme management and early scheme development and study work is therefore also included.

Table 1: Prioritised City Deal programme

Weighted Rank	Scheme	Indexed score	Est. cost (£m)	Earliest start on site	Risk of delay to start	Earliest completion
Priority schemes – City Deal Years 1 to 5						
1	Histon Road bus priority	133.5	4.28	2017	Medium	2018
2	Saffron Walden & Haverhill cycle / pedestrian routes	45.9	4.80	2015	Low	2016
3	Milton Road bus priority	188.3	23.04	2017	High	2019
4	Chisholm Trail cycle links / Chisholm Trail bridge	47.1	8.40	2015	Medium	2016
5	A428 to M11 segregated bus route / A428 corridor Park & Ride	127.3	24.48	2017	High	2019
6	Madingley Road bus priority	158.9	34.56	2017	High	2019
7	Bourn Airfield/ Cambourne cycle / pedestrian routes (phase 1)	29.8	5.00	2015	Low	Rolling programme
8	City centre capacity improvements / cross-city cycle improvements (phase 1)	75.1	7.00	2015	Low	Rolling programme
11	Bourn Airfield / Cambourne busway	59.5	28.80	2017	Medium	2018
12	Cambridge to Royston cycle link	13.4	7.20	2015	Low	2016
22	Foxton level crossing and interchange*	7.4	14.00	2016	Medium	2017
-	Year 1 to 5 reserve scheme development	-	10.60	-	-	-
-	Year 6-10 programme development	-	9.00	-	-	-
-	Programme management and early scheme development	-	4.50	-	--	-
Total (year 1 to 5 priority schemes)			185.66			
Year 1-5 reserve schemes						
7	Bourn Airfield / Cambourne cycle / pedestrian routes (phase 2)	29.8	3.40	2015	Low	Rolling
8	City centre capacity improvements / cross-city cycle improvements (phase 2)	75.1	15.66	2015	Low	Rolling
9	Airport Way Park & Ride	49.7	15.58	2018	Medium	2020
13	Western orbital	37.8	20.74	2017	Medium	2019
14	A1307 bus priority / A1307 additional Park & Ride	63.4	39.00	2018	Medium	2020
16	Project Cambridge – Hills Road	31.9	23.35	2018	High	2019
Total (year 1 to 5 reserve schemes)			117.73			

* Foxton level crossing scheme included in Year 1 to 5 programme as it is likely to be funded by Network Rail.

Background

12. The Greater Cambridge City Deal aims to enable a new wave of innovation-led growth by investing in the infrastructure, housing and skills that will facilitate the continued growth of the Cambridge Phenomenon.
13. In order to deliver more jobs and economic growth, the city-region has to accommodate new and growing businesses and research centres and the people who work in them whilst enabling efficient movement between key economic hubs. To achieve this, Greater Cambridge will undertake an ambitious programme to enhance transport capacity in the area. This capacity is needed along key strategic corridors to and from the city (particularly along those corridors where significant new housing or employment growth is planned) as well as within the built up area of the city.
14. As part of the Greater Cambridge City Deal, the local partners are due to receive up to £500 million of funding for infrastructure investment, to be paid in annual instalments over three tranches (with tranches 2 and 3 dependent on the outcome of independent economic assessments undertaken in 2019 and 2024 respectively). Tranche 1 amounts to £100 million from 2015/16-2019/20, with £20 million being paid on 1 April in each of those financial years.
15. The local partners committed as part of the City Deal to decide by the end of January 2015 on the prioritised infrastructure investment programme and to report that to Government. This needs to be decided upon in this timeframe in order to allow delivery to begin as soon as possible. This paper therefore seeks the Assembly's views on, and endorsement of, the recommended tranche 1 programme, to be recommended to and considered by the Executive Board on 28 January 2015.
16. This programme contributes to the wider City Deal vision by substantially enhancing connectivity and improving capacity and movement in the city-region, particularly for more people to walk, cycle or take a bus. A coherent package of schemes is proposed to improve capacity and movement on the key corridors from the key growth locations, principally from the north, west and south, and improve movement around the city and the way the city works in access and capacity terms. This includes proposals to improve access for sustainable travel on the Histon Road and Milton Road corridors as well as the Chisholm Trail to improve access between the north, south and centre of the city-region, and enable journeys to become much easier, quicker and more reliable. This links in with and helps to maximise the benefits of key transport improvements such as the Cambridge Science Park Station, the Busway and the A14 upgrade, which in turn helps to achieve transformative improvements to connectivity and the network effect that will benefit people and businesses all over Greater Cambridge.
17. During the negotiations around the City Deal, a programme was used to illustrate the type and scale of schemes that would need to be delivered in order to deliver the transformative network-wide improvements that need to be experienced in order to underpin and strengthen the economic growth potential of Greater Cambridge. This programme was drawn from the Transport Strategy for Cambridge and South Cambridgeshire, which was developed alongside the submitted Cambridge and South Cambridgeshire Local Plans. Brief descriptions of the individual schemes are shown in Appendix C.
18. This investment programme will transform connectivity within and beyond the City Deal area, and will allow significant increases in bus and cycle use, particularly within Cambridge, that will maximise the capacity for movement, particularly within the

historic core. This strategy supports carbon objectives and promotes high quality of life for local communities by minimising the environmental impact of transport whilst enabling the area to grow.

19. The City Deal Shadow Board at its meeting on 14 August 2014 considered a paper that set out the outcome of a high-level assessment of that programme, undertaken by officers using the Department for Transport's (DfT's) Early Assessment and Sifting Tool (EAST). This is the table that was included in the Committee reports in October and November, and published in October. The Shadow Board at this meeting endorsed the proposed approach and agreed that more detailed work should be undertaken to assess the economic impacts of the various schemes and deliverability. This would help to inform the programme to 2020 and identify a ranking of schemes on the basis of this work, paired with an assessment of deliverability to recommend a deliverable programme for 2015/16-2019/20 to be considered by the Assembly and Executive Board in January 2015.
20. Since that time, work has been commissioned to assess economic impacts and develop a model to test the likely benefits of the proposed schemes. This has been undertaken by Cambridge Econometrics and SQW, with peer review provided by Steer Davies Gleave. The methodology for this model and the outputs are explained below, and in more detail in the TEAR in Appendix A.
21. Member meetings at Cambridge City Council, Cambridgeshire County Council and South Cambridgeshire District Council have considered papers on the process and inputted into these recommendations. Papers have been considered at the following meetings:
 - South Cambridgeshire District Council Cabinet – 16 October 2014
 - Cambridge City Council Environment Scrutiny Committee – 17 October 2014
 - Cambridgeshire County Council Economy and Environment Committee – 11 November 2014
22. Briefings were also held for Members of all three Councils and representatives of the Greater Cambridge Greater Peterborough Enterprise Partnership and University of Cambridge on 2 October 2014 and 10 October 2014. Stakeholder briefings have been held throughout December 2014.
23. Following the agreement of the prioritised tranche 1 programme, substantial work will need to be undertaken by officers and consultants to develop the schemes to the point where a firm decision can be made on each individual scheme. The timescales for this work will vary substantially depending on a range of factors, such as complexity of schemes, levels of support or contentiousness, scale and nature of the schemes.
24. There will be the flexibility in the programme to allow schemes to rise and fall on the priority list – or indeed to enter and be removed from that list – according to this scheme development work and any other significant changes in circumstances. The case for altering the programme will need to be strong and will require agreement from the Executive Board, considering the advice of the Assembly.
25. It should be noted that some schemes may be shown as being among the most beneficial in the long-run, however, they may be omitted from the recommended tranche 1 programme – this is because the evaluation of deliverability suggests that they cannot be delivered in that timeframe, rather than suggesting that they are not considered a priority. These are likely to be the schemes that warrant the most

attention in terms of early scheme development to inform investment plans for tranches 2 and 3.

Prioritisation model - methodology

26. The model provides an analysis of the relative housing and employment effects of the various schemes. This has been undertaken simply to show the relative merits of the proposed transport schemes, one against another, based on currently available information. The methodology of the model is explained in the TEAR in Appendix A.
27. In order to compare the relative housing and employment impacts of the schemes, it is necessary to index the figures. To do this the top-performing scheme for direct housing is given a score of 100.0, with the scores of the remaining schemes prorated from that. The same logic was applied to the total employment impacts. This allows these to be brought together on an equal basis, as shown in Appendix B.
28. It should be noted that the prioritisation model looks at economic benefits of the City Deal programme. It does not:
 - Consider the deliverability or cost of schemes.
 - Seek to specify the direct infrastructure needs for key sites
 - Preclude the need for detailed transport assessments for development sites to identify their likely transport impacts and how these will be mitigated in line with the policies in the Local Plans and in the Transport Strategy for Cambridge and South Cambridgeshire.

Prioritisation model – data sources

29. For each development site, a time profile of how that site is expected to be developed is specified in the model. For housing developments, these are as set out in the housing trajectories contained in the Annual Monitoring Reports for Cambridge City¹ and South Cambridgeshire². These are updated annually in consultation with the development industry and take account of the Local Plans and current planning permissions. For employment sites, the time profiles are those underlying the emerging Local Plans for Cambridge City and South Cambridgeshire.
30. It should be noted that the model only considers the likely economic impacts of planned growth to 2031 based on the current trajectories for the submitted Local Plans. For example, whilst the Waterbeach New Town development is expected to include some 8,000-9,000 new homes, the model only considers the likely economic benefits of the 1,400 homes identified in the submitted South Cambridgeshire Local Plan to be built by 2031. However, it should be noted that this growth is inextricably linked and planned as part of the larger development. Indeed the Transport Strategy, which is based on both Local Plans' growth aims and trajectories, includes the proposed strategic transport requirements for the full development. Therefore, if timing or pace of development changes, there is some flexibility to consider likely impacts and related infrastructure requirements, where the evidence supports this.
31. No estimate is made of a level of development that could come forward without the delivery of certain infrastructure schemes, because a) that level of information is not available for any development sites; and b) there is no local planning policy basis to

¹ <https://www.cambridge.gov.uk/sites/www.cambridge.gov.uk/files/documents/FINAL%20AMR.pdf>

²

<https://www.scambs.gov.uk/sites/www.scambs.gov.uk/files/documents/South%20Cambs%20AMR%202012-2013.pdf>

suggest that part of a site could be granted permission in place of the full site if the necessary supporting infrastructure is not delivered.

Prioritisation model - assumptions

32. As with any model there was a need to make several assumptions, based on all available information. For instance in order to ensure that the schemes are evaluated on an equal basis it has been assumed for the purposes of the model that all schemes are delivered by the end of March 2015, allowing the full benefits of the schemes to be evaluated. Details of this and other assumptions made in the model are explained in the TEAR in Appendix A.

Prioritisation model - outputs

33. The model produces various outputs that are important in terms of growth and economic impacts, assessing these impacts in the time up to 2031 (i.e. within the timeframe of the Local Plans). These do not make any allowance for deliverability. It should be noted that the numbers shown in the tables are indicative of the relative strength of impacts, rather than specific numbers of houses and jobs that can be attributed to individual schemes in isolation. Sensitivity tests have been undertaken to test the robustness of these outputs. These are all shown in the TEAR in Appendix A.

Deliverability - methodology

34. It is important in the decision on the tranche 1 programme to consider deliverability alongside the pure economic prioritisation to ensure that a balanced and deliverable programme can be agreed which delivers the economic benefits as far as possible. Given that tranche 1 runs from 2015/16-2019/20, and the complexity and contentiousness of some of the schemes contained within the programme, it will simply not be possible to deliver some schemes during this timeframe. This should be seen in the context of:
- the desire to deliver the greatest possible benefits during this time; and
 - the need to demonstrate an ability to deliver major schemes to inform the 2019 economic assessment.
35. It may however, be the case that the Executive Board decides to invest in some schemes that begin to be delivered in tranche 1 but are not expected to be completed until tranche 2. In doing this, the Board will need to recognise that the final allocation of funding for 2020 onwards will only be known in 2019.
36. At the current time there is not a great deal of specific information available for the various schemes – that information will emerge as scheme development work is undertaken – so officers have estimated using available information how long the various schemes are likely to take between the decision to begin scheme development and the opening of the scheme. This is informed by experience of similar types and scales of projects, drawing upon the expertise of relevant officers with experience of capital transport infrastructure delivery.
37. For some of the smaller schemes, particularly including pedestrian/cycling schemes, the processes involved are generally shorter and may require less by way of statutory processes than the larger major schemes. These will therefore by their nature be shown to be more deliverable in the short-term. For the larger schemes in the programme, the process that needs to be followed is set out below, with several

decision points and consultations along the way – this is the process used to inform this evaluation of deliverability:

- Data gathering
- Options report
- Outline Business Case
- Full Business Case
- Statutory processes, e.g. planning permission, Traffic Regulation Orders, etc.
- Construction

Deliverability of individual schemes

38. Officers' evaluation of the deliverability of the various schemes is shown in Appendix D. This demonstrates which schemes are considered to be deliverable within the period 2015/16-2019/20, and which are not. As explained above, this is the best estimate available at this time – information may be forthcoming through the scheme development process that suggests schemes are more or less deliverable than currently estimated, which will need to be taken into account by the Executive Board at the appropriate times.
39. This is based around current trajectories for development sites, so makes no allowance for the potential acceleration of certain sites. It may be that schemes within the programme would enable some development sites to come forward more quickly, but to make a decision on that basis would require a firm commitment from the developers to bring that site forward earlier and to repay the appropriate sum through developer contributions. Without having that commitment at this point, acceleration of development sites has not been considered in this evaluation. If such a commitment is forthcoming, that could change the priority of some schemes in future. The situation will also be kept under review as the Local Plans continue through the examination process.
40. Each scheme has an evaluation made of the risk of delay to start, considering the contentiousness and complexity of the schemes. Those schemes that therefore could not be delivered until the end of the tranche 1 programme period, if not later, are not recommended to be progressed as part of tranche 1. Scheme development work could, however, change this assessment of deliverability and/or provide Members with sufficient information to decide to invest in such a scheme before the beginning of the tranche 2 period.

Interface with other funding sources

41. It should be noted that, whilst the tranche 1 funding allocation is for £100 million, with £20 million per annum, this is in nominal terms and does not take inflation into account. Construction price inflation typically outstrips the Consumer Price Index and Retail Price Index. This means that, whilst the tranche 1 funding will allow the delivery of a substantial package of investments, it will not quite have the spending power of £100 million in today's prices.
42. This paper makes recommendations for a programme in excess of the £100 million tranche 1 City Deal funding, in recognition of the fact that other sources of funding will contribute towards the programme in line with the terms of the overall City Deal.
43. Funding will be required from a mix of funding sources to support in delivering infrastructure improvements including;

- Private sector/ developer funding – contributions/Section 106 (to mitigate impacts) or Community Infrastructure Levy funding towards the non site specific infrastructure necessary to support growth.
 - Other sources such as Funding Bids from Growth Deal/Cycle City ambition funding where available.
 - Other Grant funding where available such as New Homes Bonus/Integrated Transport Block funding.
44. Developer contributions are expected to be a key source of funding to support the delivery of the City Deal Programme. This programme draws from the Transport Strategy for Cambridge and South Cambridgeshire, which in turn accounts for planned growth in the submitted Local Plans and identifies the infrastructure and improvements that are needed to facilitate and mitigate the impacts of development and the Developer contributions that will be required towards schemes to provide for the necessary infrastructure and mitigate the impacts of growth in the same manner as would have been the case without City Deal funding.
45. In terms of funding anticipated from Section 106 and Community Infrastructure Levy funding towards offsite infrastructure, an initial estimate suggests some £50-80 million for the Cambridge, and South Cambridgeshire area towards infrastructure in the 10 years from 2015. This is estimated on the basis of the current legislative and funding situation and projections, and assumes developments come forward as planned.
46. While developer contributions typically come forward as triggers are reached, there may be some scope for discussions with developers around forward-funding key schemes from City Deal funding where this would deliver strong wider benefits. That would only happen on the basis of a firm agreement with the developers, and funding would need to be paid back as triggers are reached so that it can be used to continue to support delivery of the programme.
47. Alongside developer contributions, contributions could also be secured to support scheme delivery from other sources where available. This could include, Growth Fund, or Cycle City Ambition funding/Local Sustainable Transport Fund. In this case, funding availability is uncertain and officers will be expected to bid for opportunities as they arise.
48. Other sources which may have potential include Integrated Transport Block Funding which the County Council has (£3.2m for whole of Cambridgeshire during 2015/16) or New Homes Bonus receipts from the authorities. In line with the City Deal agreement, consideration will be given to pooling funding sources to ensure an integrated approach to supporting the delivery of the programme.
49. Therefore in terms of funding availability to 2020, the programme ranks schemes in priority order and then schemes can be progressed for delivery on the basis of funding available.

Recommended 2015-20 infrastructure investment programme

50. To devise the recommended tranche 1 programme, officers have overlaid deliverability onto the indexed priority list, which is explained in paragraph 27 and illustrated in Appendix B. Table 1 of this report shows those schemes that are considered to be deliverable within this period, in priority order. This shows a series of schemes that are recommended to be agreed as the tranche 1 programme, with the other schemes to be developed in further detail as 'reserve schemes', which can be delivered in place of a prioritised scheme if considered appropriate at a later date.

51. The scheme cost estimates in this programme are outline and indicative, particularly for the larger schemes. Most of the larger schemes are at a relatively early stage of development, and options and detailed business case work need to be developed.
52. It should be noted that the phasing and delivery of schemes will need to be considered over time, in order to avoid causing significant traffic problems by undertaking major works in tandem on neighbouring corridors for instance, and to avoid the delivery of a corridor improvement effectively exacerbating traffic issues within the city centre. The Cambridge Access Study will be key in identifying ways to address this risk.

Next steps

53. Following discussion at this meeting, a paper will be presented to the Executive Board at its 28 January 2015 meeting, which will need to agree the programme for 2015/16-2019/20. The list will be kept under review as the Local Plans continue through the examination process and as a result of any other significant changes in circumstances. This will be reported to Government.
54. Once the Executive Board has made a decision, officers will commission and undertake work to develop those schemes that are included in the prioritised programme. Whilst the first payment from Government is due on 1 April 2015, this work needs to begin as soon as possible in order to ensure that these schemes can be delivered in what is a very tight timeframe. Waiting until April to do this is an option, but is not an attractive option due to the delays it would cause to programme delivery. Beginning this work immediately will require some short-term borrowing, on the understanding that it will be repaid from the 1 April 2015 payment, but that is not considered to be problematic given the certainty of a £20 million payment on 1 April 2015.
55. Where there are schemes that have been shown to have the potential to deliver substantial benefits, but are not considered to be deliverable during tranche 1, there may be a desire to undertake scheme development work to inform the tranche 2 programme and to ensure that those major schemes can be delivered from 2020/21-2024/25 where appropriate.
56. As noted earlier in this paper, there will be flexibility in the programme to allow for some schemes to be removed and others to be added where scheme development and/or external circumstances alter the situation. Any potential change for the programme will need to be brought to the Joint Assembly before going to the Executive Board for a decision.

Implications

57. In the writing of this report, taking into account financial, legal, staffing, risk management, equality and diversity, climate change, community safety and any other key issues, the following implications have been considered: -

Financial and other resources

58. The recommended programme will involve the expenditure of £100 million from the Greater Cambridge City Deal, alongside other appropriate funding as set out in paragraphs 41-49.

59. There is likely to be a need to undertake some short-term borrowing, over the coming months in order to begin scheme development, and during tranche 1 as the profile of expenditure is unlikely to mirror the profile of funding availability.

Staffing

60. There is a need to recruit staff immediately in order to undertake scheme development and delivery, given the scale of this programme in comparison to the scale of capital infrastructure that is typically delivered in this area. Formal agreement from the Executive Board to the principle of funding staff from the City Deal capital funding stream where those staff contribute to the delivery of a capital asset will need to be sought at its 28 January 2015 meeting. Existing staff are also expected to charge time spent on City Deal schemes to this funding stream.
61. Auditable timesheets will be used to ensure that expenditure on staff working on City Deal schemes is appropriate.

Risk Management

62. Whilst it is not recommended at this time that development work be undertaken on schemes to be delivered after tranche 1, if doing so is agreed that work will need to be undertaken at risk given the lack of certainty around the tranche 2 funding allocation.
63. The agreed Terms of Reference set out how any liabilities incurred are to be resolved. No such issues are currently anticipated.

Climate Change and Environmental

64. As much of the recommended programme is focused on sustainable transport modes, any environmental implications are expected to be positive.
65. One of the aims of the wider programme is to relieve the congestion in Greater Cambridge that has such negative impacts on climate change and the environment.

Consultation responses and Communication

66. There has been no direct public consultation on this programme specifically within the context of the City Deal. However the programme was developed through the Transport Strategy for Cambridge and South Cambridgeshire and the Local Plans to support the planned development strategy to 2031.
67. The programme has been drawn from the Transport Strategy for Cambridge and South Cambridgeshire, which was consulted on in 2013 and received favourably.
68. The programme has been released into the public domain to raise awareness of the ongoing work and the decision that is to be taken. The decision on the tranche 1 programme needs to be driven by an evaluation of anticipated economic impacts in order to deliver the City Deal objectives and to unlock tranches 2 and 3 of funding (amounting to up to a further £400 million).
69. Member meetings at the partner Councils have been consulted for views on the programme, recognising that the decision is within the remit of the Executive Board rather than any individual Council. There have also been several all-Member and stakeholder briefings from October to December. The Member meetings that have considered a paper on the programme are:

- South Cambridgeshire District Council Cabinet – 16 October 2014

- Cambridge City Council Environment Scrutiny Committee – 17 October 2014
- Cambridgeshire County Council Economy and Environment Committee – 11 November 2014

70. Individual schemes that are delivered as part of this programme will be subject to consultation at appropriate points as they come forward.

Report Author: Graham Hughes – Executive Director: Economy, Transport and Environment, Cambridgeshire County Council
Telephone: 01223 715660

Economic Prioritisation of the Greater Cambridge City Deal

A Transport Economic Assessment Report (TEAR) for Cambridgeshire County Council

23 December 2014

Cambridge Econometrics
Covent Garden
Cambridge
CB1 2HT
UK

Tel 01223 533100
Fax 01223 533101
Email bg@camecon.com
Web www.camecon.com

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5.0	23/12/14	Ben Gardiner	Final report (incorporating final comments from Cambridgeshire County Council)

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Executive Summary

- This report is the result of a study undertaken by Cambridge Econometrics and SQW for Cambridgeshire County Council, to prioritise the transport schemes in the Greater Cambridge City Deal on the basis of their economic impact.
- The Greater Cambridge City Deal is very important not just for the future of the Cambridge area, but also for the wider national economy. Crucially, it is providing a basis for significant infrastructure investment which ought to enable a new wave of innovation-led growth.
- The Deal is subject to a Gain Share mechanism, whereby £400m of Central Government funding in the 10-15 years after 2019 is dependent on the delivery of significant economic impacts through the prioritised spending of an initial £100m of funding over 2015-19.
- The study has focused on the impacts of the transport schemes in Greater Cambridge on the key metrics of housing and employment.
- A series of logic chains have been developed to assist with the quantitative assessment of how key housing and employment sites in Greater Cambridge are dependent on the City Deal transport schemes. These reflect the direct impacts of the schemes on housing, and direct and indirect (e.g. through better functionality of the city and its surrounds, or agglomeration effects) impacts on employment.
- Based on the logic chains, a quantified ‘Economic Prioritisation Tool’ has been developed which takes user-input assumptions on factors such as how critical each transport scheme is to a particular housing or employment development, and results in a prioritised list of the schemes based on their impact on housing or employment in a particular period (up to 2019, 2024 or 2031).
- The economic prioritisation is based on the trajectories for housing and employment in the Annual Monitoring Reports and emerging Local Plans for Cambridge and South Cambridgeshire, and a high level assessment of the importance of the City Deal transport schemes reflecting the Transport Strategy for Cambridge & South Cambridgeshire. It does not comment on or consider the housing trajectory or transport schemes in terms of deliverability. Nor does it seek to identify the infrastructure likely to be needed *ahead* of development - it aims to identify the likely economic benefits of having such infrastructure in place and how that is likely to support employment and housing growth.
- Sensitivity analysis has been undertaken to assess the sensitivity of the results to particular assumptions, and the overall results were found to remain similar in each case.
- The prioritisation is based on economic impacts only, and does not take into account the deliverability of the transport schemes. Cambridgeshire County Council will look at the issue of deliverability separately.
- The prioritisation based on total employment impacts and on direct housing impacts are shown in Table 1 and Table 2 respectively.

Table 1: Prioritisation on cumulative total employment impact in 2031

Rank	Scheme
1	Milton Road bus priority
2	Madingley Road bus priority
3	City centre capacity improvements/Cross-city cycle improvements
4	A428 to M11 segregated bus route/A428 corridor Park & Ride
5	A1307 Bus priority/A1307 additional Park & Ride
6	Histon Road bus priority
7	Saffron Walden & Haverhill pedestrian/cycle routes
8	Western orbital
9	Chisholm Trail cycle links/Chisholm Trail bridge
10	Project Cambridge - Hills Road
11	A10 dualling and junctions/A14/A10 Milton Interchange
12	Waterbeach Park & Ride/Waterbeach to North Cambridge Busway
13	Bourn Airfield/Cambourne Busway
14	Waterbeach new station
15	Airport Way Park & Ride
16	Hauxton Park & Ride
17	Hauxton-Trumpington Busway
18	Newmarket Road bus priority
19	Ring road bus priority Addenbrooke's to Newmarket Road/Newmarket Road to Cambridge Science Park Station busway
20	Waterbeach cycle/pedestrian routes
21	Bourn Airfield/Cambourne cycle routes
22	Cambridge to Royston cycle link
23	Foxton level crossing and interchange

Table 2: Prioritisation on cumulative housing impact in 2031

Rank	Scheme
1	Milton Road bus priority
2	Histon Road bus priority
3	A428 to M11 segregated bus route/A428 corridor Park & Ride
4	Madingley Road bus priority
5	Bourn Airfield/Cambourne Busway
6	Newmarket Road bus priority
7	Airport Way Park & Ride
8	Bourn Airfield/Cambourne cycle routes
9	Waterbeach cycle/pedestrian routes
10	A10 dualling and junctions/A14/A10 Milton Interchange
11	Waterbeach Park & Ride/Waterbeach to North Cambridge Busway
12	Waterbeach new station
13	Chisholm Trail cycle links/Chisholm Trail bridge
14	A1307 Bus priority/A1307 additional Park & Ride
15	City centre capacity improvements/Cross-city cycle improvements
16	Saffron Walden & Haverhill pedestrian/cycle routes
17	Project Cambridge - Hills Road
18	Foxton level crossing and interchange
19	Hauxton Park & Ride
20	Cambridge to Royston cycle link
21	Hauxton-Trumpington Busway
22	Ring road bus priority Addenbrooke's to Newmarket Road/Newmarket Road to Cambridge Science Park Station busway
23	Western orbital

1 Introduction

1.1 Background to the study

Greater Cambridge City Deal

On 19th June 2014 the Greater Cambridge City Deal was signed following negotiations between the UK government and a partnership of local stakeholders including Cambridge City Council, South Cambridgeshire District Council, Cambridgeshire County Council, The University of Cambridge and the Greater Cambridge Greater Peterborough Local Enterprise Partnership.

Focus on infrastructure, housing and jobs

In general terms, Cambridge is an area which is mostly supply-constrained, as evidenced by issues such as rising house prices and increasing congestion. The aim of the city deal is to boost growth by easing some of these supply-side constraints by investing in transport infrastructure which will enable or facilitate, and accelerate the delivery of, planned development sites around Cambridge that will in turn help create over 33,000 new homes and 45,000 new jobs. It will also enable the delivery of 1,000 extra homes on rural exception sites.

Funds are phased over the coming 10-15 years

According to the agreement, an initial £100 million will be provided in the 5 years from April 2015, split into 5 equal payments. An additional £400 million will also be available depending on the impacts identified from the initial investments – this will be split into two tranches of £200 million, the first available from April 2020 while the second will be from April 2025. With local partners also committed to providing a further £500m from other sources such as developer contributions, this represents a total potential investment of £1 billion in local infrastructure.

Demonstration of impact is crucial to further release of funds

As mentioned above, there is a clear need to provide an evidence base through which the infrastructure investments can be seen to promote economic growth, otherwise future phases of funding may not be forthcoming. This involves both an *ex-ante* and an *ex-post* assessment:

- *ex-ante* because the choice and timing of infrastructure investments will be important if growth impacts are to be demonstrated, and
- *ex-post* because, ahead of the release of further funds the process will need to look backwards and assess what benefits have actually been accrued from the investments already made.

This study concerns the *ex-ante* part of the assessment.

1.2 Main purpose and objectives

Quantifying effect on houses and jobs growth

The main purpose of the study is to devise a methodology whereby the economic benefits of transport schemes being put forward under the Greater Cambridge City Deal can be compared and ranked on an objective basis. The main metrics¹ on which the transport schemes are to be compared are as follows:

- housing growth;

¹ Gross Value Added (GVA) was considered as a potential metric but its calculation, particularly at local level, is problematic and so more straightforward measures such as employment and housing that fit better with the city's local growth plans, were chosen.

- jobs growth (both directly created or indirectly influenced)

Other effects, that are of secondary consideration and so not included in the quantitative analysis, but are nonetheless worthy of mention, include quality of life and health improvements.

Timescales are also important

Alongside the need to provide numbers for employment and housing growth there is also a requirement to consider the associated timing of these benefits. It is not enough that a scheme delivers a large number of houses and jobs if the timescale involved is too long term for it to be included in the planning schedule.

Underlying assumptions

This study is based on the trajectories for housing and employment in the Annual Monitoring Reports and emerging Local Plans for Cambridge and South Cambridgeshire, and a high level assessment of the importance of the City Deal transport schemes reflecting the Transport Strategy for Cambridge & South Cambridgeshire. It does not comment on or consider the housing trajectory or transport schemes in terms of deliverability. Nor does it seek to identify the infrastructure likely to be needed *ahead* of development - it aims to identify the likely economic benefits of having such infrastructure in place and how that is likely to support employment and housing growth.

Remaining sections of the report

Chapter 2 describes the qualitative assessment of the transport schemes in terms of their strategic fit into the plans for the Cambridge area and the method through which the employment and houses can be allocated across schemes and to different time periods.

Chapter 3 develops the model further by quantifying the effects and developing a tool whereby the schemes can be ranked according to their employment and housing growth effects, allowing the user to modify assumptions and see how this affects the attractiveness of different scheme combinations.

Chapter 4 summarises the findings while the Appendices contain more detail on the transport schemes under consideration (Appendix A) and a map of the transport corridors in Greater Cambridge (Appendix B).

2 Qualitative Assessment

2.1 Introduction

The Greater Cambridge City Deal is very important not just for the future of the Cambridge area, but also for the wider national economy. Crucially, it is providing a basis for significant infrastructure investment which ought to enable a new wave of innovation-led growth. However the investment is premised – literally – on a “deal”: the scale of that investment over 10-15 years will depend on delivering additional economic impact and growth. The City Deal document states that “the backbone of the proposed strategy is a transport network to link areas of population and employment within the City Deal area”. The schemes identified to date comprise a mix of road capacity improvements, public transport prioritisation measures and pedestrian/cycle routes. All have a strong transport-related rationale (which has been tested through DfT’s EAST process). However the City Deal’s “bottom line” is fundamentally different from conventional DfT metrics²: it relates to the delivery of additional economic growth over the period to 2031.

However, although it is clear that there is a relationship between investment in transport infrastructure and the process of both economic (jobs) and housing growth, identifying the extent of causality is very difficult. In the main, transport economists have relied on measures of travel-related time savings as a proxy for economic performance and some monetary value has been attached to this. However in practice, the link to the conventional metrics of economic growth – the creation of new jobs and the construction of new houses – is really quite uncertain. In 2013, DfT commissioned an independent study to “review methods for modelling and appraisal of the sub-national, regional, and local economy impacts of transport”. This examined different approaches to transport modelling. It concluded that “there is currently no suitable method in its current form that could be widely used to meet all requirements for accurately estimating sub-national, regional and local economy impacts.”

It was from this premise that Cambridge Econometrics and SQW – two Cambridge-based firms – embarked on a more qualitative consideration of possible/probable impacts relating to the process of economic growth.

Our starting point was, literally, a map showing the principal transport routes across (and beyond) Cambridge; the planned housing schemes; and major areas of planned employment growth. Onto this map, we plotted the transport schemes identified through the City Deal process, and we considered – in a highly narrative form – the role(s) that each plausibly might play in either enabling or accelerating the creation of new jobs and homes. This narrative was then converted into a series of structured logic models; and the relationships within the models were, as far as possible, then quantified to provide some basis for economic prioritisation. This chapter explains the first part of this process.

² This does not negate the need for ex-ante appraisal using existing methodologies, in line with HM Treasury’s [The Green Book Appraisal and Evaluation in Central Government](#) and Guidance on Appraisal and the DfT’s Transport Analysis Guidance ([webTAG](#)).

2.2 The transport dimensions of Greater Cambridge’s ‘economic masterplan’

Continuing growth within the current spatial footprint of Greater Cambridge is crucially important for the UK economy, yet the area is – evidently – highly congested: the road network is under huge pressure and public transport (rail, bus) is also close to capacity. Within this context, additional transport investment ought to stimulate economic and housing growth. Plausibly, this is most likely to arise when the new investment is:

- clearly crucial to unlocking major housing and/or employment sites (which would not otherwise come forward)
- providing an important link between employment and housing development sites
- enhancing the functionality of the city centre and its surrounds, recognising that this is a major hub of economic activity in its own right, and the main retail, entertainment and service centre for a much wider area
- improving perceptions of Cambridge as a place to do business and to enjoy a good quality of life.

All four of these circumstances are found within the Cambridge area. In the paragraphs that follow, we explain each in turn.

Unlocking major housing and/or employment sites

In some respects, the most unambiguous arguments surrounding the role of transport schemes in delivering growth relate to those circumstances in which developments simply will not proceed without upfront investment in some part of the transport infrastructure. This is generally because of issues relating to direct site access, or to the capacity of transport routes which serve the site (e.g. the full development of Northstowe cannot proceed until a new link road to the A14 and the A14 improvements are in place).

There are examples of such schemes in the transport investment proposals identified through the City Deal process functioning literally as an on/off switch for housing and/or employment growth (e.g. improvements to the A10 to enable the development of the proposed housing and employment development at Waterbeach). While a high level assessment has been undertaken of direct and indirect benefits of proposed transport schemes here, this does not constitute a detailed transport assessment which will be required to ascertain specific implications of growth and the interventions needed to mitigate that growth.

Linking employment and housing sites

A key aim of the City Deal is to enhance the functionality of the Cambridge area as a whole. Across Cambridge, housing is currently being sold as quickly as it is built and there are no discernible “cold spots”. In relation to employment, however, the situation is rather more complex. There are, arguably, three main market areas which are faring quite differently:

- the central area – around the station and the city centre, is the most buoyant part of the employment-related market, and demand for sites and premises has consistently outstripped supply. The development of CB1 has temporarily increased supply, but the escalation of rents in this area demonstrates the scale of demand for business space
- elsewhere in the city – particularly to the south at Cambridge Biomedical Campus, the northern fringe and west Cambridge. Most of these sites have planning restrictions (in terms of more restrictive Use Class designations) but in general

- demand is strong, based on key attractors (Addenbrooke's, Cambridge Science Park, etc). The main exception to date has been the West Cambridge site, which is perceived as being somewhat more remote from the railway station and city centre
- science and business parks in the surrounding area of south Cambridgeshire, such as Cambridge Research Park to the north, Granta Park to the south and Cambourne Business Park to the west. In these areas demand has picked up recently but it proved really quite sluggish during the economic downturn; it might therefore be regarded as significantly more cyclical than alternatives in and on the edge of the city.

Overlain on these three 'concentric rings' around Cambridge is a market bias in favour of areas to the south of the city relative to other segments. This is largely due to three factors: relatively the southern part of the area is closer to Cambridge station and to London, and most of the major research institutes are in this area.

Within this broad spatial context, it is apparent that transport investment has a potentially catalytic role to play by enhancing the relative attractiveness of some employment locations, by reducing journey times, and by increasing the capacity, reliability and accessibility of links between major housing and employment sites. For example, the bus priority schemes and additional park & ride facilities proposed for most of the main radial routes into Cambridge fall into this category.

Enhancing the functionality of the city centre and its surrounds

The city centre acts as the service centre for the whole of Greater Cambridge and a wider catchment area. It is also a major employment centre in its own right. The main radial routes all converge on the city centre, and some key public transport links pass through the centre (e.g. the guided bus). The city centre is also highly constrained by the historic buildings, open spaces and street pattern, and highly congested.

In addition, there are various major employment and housing sites on the edge of the city which need to be better linked. The guided bus has already improved north south links (e.g. between the Cambridge Science Park and the Addenbrooke's site, including the Cambridge Biomedical Campus) although its passage through the city centre is still capacity constrained. In addition, links between these locations and others to the east and west of the city centre (e.g. Capital Park, and the West Cambridge site) need improvement.

Measures to improve the capacity and reliability of movement across and around the city centre, particularly by public transport and cycling, are therefore crucial to the efficient functioning of the whole Greater Cambridge area, and specifically to linking housing sites to employment sites, and both to city centre services.

Improving perceptions of Cambridge

Cambridge is one of the most attractive places in the country to live and work. It has a high quality of life and a strong specialist labour market, and it has proved increasingly attractive to inward investment and to tourists.

However, a common concern among residents, businesses and visitors is traffic congestion, and the uncertainty and delays that this causes. If growth results in further increases in congestion and a decline in the quality of life, Cambridge will become less attractive and firms will begin to look elsewhere to locate and grow – typically looking outside the UK rather than elsewhere within the country.

Transport improvements are therefore essential to maintain and improve perceptions of the city and surrounding areas. The effect of any one improvement on perceptions of the area is impossible to measure, but over time there is likely to be a discernible

indirect effect on jobs and homes of all transport improvements considered together. And those that have the biggest impact on improving access to jobs and homes, and the links between them, are likely to have the biggest effect on perceptions.

2.3 Logic Chains

Tables 2.1 to 2.3 summarise the above arguments and relate them to the type and scale of impacts that can be expected of the proposed transport schemes, both individually and collectively, directly and indirectly.

Table 2.1: Direct effects linked to (A) housing developments and (B) new employment provision

Context	1: Route to Impact (Rtl)	2: Strength of the causal link to relevant developments	3: How much of the impact can the scheme claim*	4: From the supply side perspective, how quickly will impacts be achieved, taking into account: • A: practicalities of scheme delivery; AND • B: delivery of relevant development sites	5: From the demand side perspective, how quickly is demand likely to materialise?
The scheme is located in a growth corridor in which housing development is planned	A: The scheme will impact (to a greater or lesser extent) directly on the development of a (specified) number of homes	<i>Critical</i> – the development will not go ahead at all unless the scheme is delivered	100%	To be assessed separately	[N/A – assume there will be no shortage of demand for housing in Cambridge]
		<i>Necessary</i> – the scheme is important to enable the development to proceed (and to its connectivity to jobs in the Cambridge area)	60%		
		<i>Priority</i> – the scheme will significantly enhance the deliverability of the development	20%		
AND/OR					
The scheme is located in a growth corridor in which employment sites have been allocated	B: The scheme will impact (to a greater or lesser extent) on development of allocated employment sites which will accommodate a (specified) number of jobs	<i>Critical</i> – the development will not go ahead at all unless the scheme is delivered	100%	To be assessed separately	There may be variations in the strength of demand depending on the location of the scheme: in general, the closer to Cambridge city centre, the stronger the demand. However, variations are also likely due to other factors such as the economic cycle, therefore delay factors cannot be quantified
<i>Necessary</i> – the scheme is important to enable the development to proceed (and to its connectivity to jobs in the Cambridge area)	60%				
<i>Priority</i> – the scheme will significantly enhance the deliverability of the development	20%				
Note: * The scale of impact a transport scheme can claim will lie within a range, but to enable quantitative assessment, a single value has been proposed.					

Table 2.2: Indirect effects relating to employment through the “functionality of the cluster”

Context	1: Route to Impact (Rtl)	2: Strength of the causal link	3: How do we isolate (in quantitative terms) the impacts to which this relates?	4: How much of the impact can the scheme claim?	5: From the <u>supply side perspective</u> , how quickly will impacts be achieved, taking into account: • A: practicalities of scheme delivery; AND • B: delivery of relevant development sites	6: From the <u>demand side perspective</u> , how quickly is demand likely to materialise?
The scheme provides better links between two or more key “cluster sites”; and/or	The scheme will impact indirectly on the process of employment growth as a result, mainly, of the better connectivity and functional integration of “cluster sites” . This will not impact on supply, but it could accelerate the growth in demand for new employment provision	The strength of the link depends on the role the scheme plays in the overall transport package, particularly along the relevant transport corridor	The number and scale of employment and housing sites in and related to the relevant transport corridor	The strength of the indirect effect of a particular scheme can be assumed to be related to its criticality	To be assessed separately	There may be variations in the strength of demand depending on the location of the scheme: in general, the closer to Cambridge city centre, the stronger the demand. However, variations are also likely due to other factors such as the economic cycle, therefore delay factors cannot be quantified
The scheme contributes to the accessibility /functionality of the city centre; and/or		The strength of the link is related to the contribution the scheme makes to improving accessibility to the city centre and the inclination of residents and employees to use its services (e.g. retail)	Planned growth of retail, culture, leisure, etc. in the city centre (which won’t necessarily involve B Use Class employment land)			
The scheme contributes to orbital connectivity linking key destinations		The strength of the link is related to the contribution the scheme makes to improving accessibility to and between sites around the edge of the city (e.g. between West Cambridge and Addenbrooke’s)	Planned growth of Greater Cambridge			

Table 2.3: Indirect effects relating to employment and/or housing through the “attractiveness of Cambridge”

Context	1: Route to Impact (Rtl)	2: Strength of the causal link	3: How do we isolate (in quantitative terms) the impacts to which this relates?	4: How much of the impact can the scheme claim?	5: From the <u>supply side perspective</u> , how quickly will impacts be achieved, taking into account: <ul style="list-style-type: none"> • A: practicalities of scheme delivery; AND • B: delivery of relevant development sites 	6: From the <u>demand side perspective</u> , how quickly is demand likely to materialise?
The scheme helps Cambridge work better – as a place where people live, work, shop and visit	The scheme will impact indirectly on both housing and employment growth simply because Cambridge is seen as an attractive place to be: congestion is reduced and travel is quicker and more reliable, which improves the quality of life	Weak – only one part of a much bigger range of issues	This relates to the long term growth of Cambridge as a whole. Scope for quantification very limited.	N/A	To be assessed separately	Quality of life related impacts must be long term. Cambridge is already highly congested and people are still wanting to live and work here. However, over the long term (e.g. 20 year+), if congestion is allowed to increase indefinitely, investment in the local economy will be deterred and people will no longer want to live here

3 Quantitative Assessment

3.1 Introduction

This part of the report describes how the strategic analysis and logic chains developed in the previous section have been developed further into a spreadsheet tool to quantify the economic impacts of the City Deal schemes. The tool has been developed through a number of discussions, both within the project team and with the client team. It is necessarily a simplification of reality, but incorporates what we believe to be the key economic impacts necessary to robustly prioritise the schemes.

The tool allows the housing, direct employment and indirect employment effects of developments across Greater Cambridge to be allocated across the different transport schemes and corridors, so that a comparison can be made and a ranking of schemes undertaken on the different metrics. The allocation of housing and/or employment at particular development sites to particular transport schemes is based on an assessment of how critical a transport scheme is to enabling or supporting development at each site. The ranking can be made for any particular time period, although the key dates for the City Deal are 2019, 2024 and 2031. The structure of the tool is outlined below, alongside key assumptions that have been made, and the outputs and findings are then discussed.

3.2 Structure of the spreadsheet tool

Overview The spreadsheet tool is laid out in six worksheets, each of which is described below.

Information sheet This describes the version and set-up of the tool, including information on what the other sheets contain and a description of what the main assumptions are.

Summary sheet The summary sheet presents the main results of the spreadsheet tool. It contains summary tables for the housing, direct employment and indirect employment impacts, for each transport scheme for three key periods. It also has embedded selection tools which allow the user to choose the year ((2019, 2024 or 2031) and indicator of interest to provide a single, more focussed, ranking.

Assumptions This sheet is where the underlying assumptions are stored, which can be altered by the user. A description of the assumptions is contained in the next section.

Direct Housing This sheet is used to calculate the direct housing impacts of each scheme, based on the figures in the assumptions sheet.

Direct employment This sheet is used to calculate the direct employment impacts of each scheme, based on the figures in the assumptions sheet

Indirect employment This sheet is used to calculate the indirect employment impacts of each scheme, based on the figures in the assumptions sheet.

Key assumptions Here the key assumptions that underpin the spreadsheet tool are discussed.

Grouping of assumptions At the highest level, the assumptions are grouped together according to the key ways in which the transport schemes are assumed to impact on economic growth, as discussed in Chapter 2 above. These are:

1. direct impacts on housing - reflecting the direct enabling/supporting of housing developments

2. direct impacts on employment – reflecting the direct enabling/supporting of employment sites
3. indirect impacts on employment – reflecting the linking of employment and housing sites and the enhanced functionality of the city centre and its surrounds

Grouping of schemes Within each of the three types of impact, the assumptions are grouped together by development, with a row for the assumptions for each transport scheme relevant to each development. In some cases transport schemes have been grouped together where it would not make sense for one scheme to go ahead without the other (e.g. the A428 to M11 segregated bus route and the A428 corridor park and ride).

Many of the transport schemes have wider benefits outside of Greater Cambridge, and some help in facilitating growth further afield. For example, improvements to the A1307 corridor (such as the bus priority scheme and additional park & ride, and Saffron Walden & Haverhill pedestrian/cycle routes) should increase demand for affordable housing in Haverhill while at the same time supporting employment growth in Cambridge (especially on the Addenbrooke’s site) by making it easier for workers to commute in from those developments. As the housing in Haverhill is outside of Greater Cambridge, it has not been included in the assessment of housing supported by City Deal transport schemes. However, the A1307 schemes will help support employment growth in Greater Cambridge, and so are included in that assessment.

Some of the transport schemes in the City Deal could impact, at least indirectly, on growth at the planned development at Northstowe, by alleviating congestion generally – in particular, by improving the reliability of the guided bus on the road sections of its route into central Cambridge. However, Northstowe already has planning permission for the first Phase (1,500 houses) of the development and some of these are due to be completed in 2015. The City Deal schemes cannot therefore be seen as being imperative to development proceeding. Housing and employment growth associated with Phase 1 of development at Northstowe has therefore been explicitly excluded from this prioritisation assessment. However, consideration of the impact of the transport schemes on future phases of development at Northstowe has been made.

For each development and transport scheme there are then various assumptions, which are described below.

Trajectory of development For each development, a time profile of how that site is expected to be developed is specified based on the information available. For housing developments, these are as set out in the Annual Monitoring Reports for Cambridge City³ and South Cambridgeshire⁴. For employment sites, the time profiles are those underlying the emerging Local Plans for Cambridge City and South Cambridgeshire. Sensitivity analysis of the result to bringing housing and employment developments forward by five years has been conducted (see ‘Sensitivity Analysis’ below), but no analysis has been undertaken to assess whether such development could actually be brought forward if the transport schemes were delivered sooner.

³ <https://www.cambridge.gov.uk/sites/www.cambridge.gov.uk/files/documents/FINAL%20AMR.pdf>

⁴ <https://www.scambs.gov.uk/sites/www.scambs.gov.uk/files/documents/South%20Cambs%20AMR%202012-2013.pdf>

Indirect employment In order to assess the likely ‘indirect’ employment impacts of the various City Deal transport schemes, i.e. through improved connectivity and enhanced functionality of the city centre and its surrounds, it is necessary to have a measure of the scale of such employment. This has been calculated as the total employment growth set out for Greater Cambridge in the two emerging local plans, less the employment attributed directly to particular schemes. Thus, in this assessment, all employment growth provided for on land allocated in the emerging Local Plans has been attributed either directly or indirectly to the City Deal transport schemes. This is under the premise that, without the transport schemes, these sites are unlikely to provide any of the planned jobs. Although it could, perhaps, be argued that this assumption is an extreme one, it is not critical to the overall result of the analysis. Sensitivity testing of the result when ranking based on total employment (direct plus indirect) compared with ranking on direct employment only (See Chapter 4 below) shows that only the ranking of the Histon Road bus priority scheme is significantly affected.

Criticality for development This assumption is used to show at a high level the importance of a transport scheme to the development. A scheme is 'critical' (4) if the development could not go ahead at all without it, 'necessary' (2) if it is important to enable the development to come forward in a sustainable manner, but not critical, and a 'priority' (1) if the scheme will significantly enhance the deliverability of the development within the context of relevant policy priorities. The numerical values represent the increasing importance of the schemes in terms of benefits, and a value of 4 (rather than 3) is used to represent 'critical' schemes to emphasise their importance relative to the other schemes (see Sensitivity Analysis, below, for analysis of the impact of using 4 rather than 3 for critical schemes, on the results).

The criticality assumptions are based on a high level assessment of the links between proposed schemes and planned growth by Cambridgeshire County Council, with advice from relevant officers. This assessment is based on and reflects what is included in the emerging Local Plans, Housing Trajectories and the Transport Strategy for Cambridge & South Cambridgeshire. This assessment does not consider the transport schemes in terms of deliverability or what infrastructure is likely to be needed *ahead* of development, nor does it preclude the need for detailed transport assessment work which will be required for developments to identify infrastructure requirements to facilitate and mitigate the impacts of growth.

Schemes that have been assessed as critical to particular housing developments are:

- Bourn Airfield/Cambourne West
 - A428 to M11 segregated bus route/A428 corridor park and ride
 - Madingley Road bus priority
- Cambridge East
 - Newmarket Road bus priority
 - Airport Way park & ride
- Waterbeach Barracks
 - Waterbeach cycle/pedestrian routes
 - Milton Road bus priority
 - A10 dualling and junctions/ A14/A10 Milton interchange
 - Waterbeach park & ride/ Waterbeach to North Cambridge Busway
 - Waterbeach new station

Schemes that have been assessed as critical to particular employment sites are:

- Bourn Airfield/Cambourne West
 - A428 to M11 segregated bus route/A428 corridor park and ride
 - Madingley Road bus priority
- Cambridge Northern Fringe East
 - Chisholm Trail cycle links/Chisholm Trail bridge
 - Milton Road bus priority
 - A10 dualling and junctions/ A14/A10 Milton interchange
 - Waterbeach park & ride/ Waterbeach to North Cambridge Busway
- Waterbeach Barracks
 - Waterbeach cycle/pedestrian routes
 - Milton Road bus priority
 - A10 dualling and junctions/ A14/A10 Milton interchange
 - Waterbeach park & ride/ Waterbeach to North Cambridge Busway
 - Waterbeach new station

Schemes that have been assessed as critical to indirect employment growth across Greater Cambridge are:

- City centre capacity improvements/ Cross-city cycle improvements
- Histon Road Bus priority
- Milton Road bus priority

Schemes such as the Waterbeach cycle/pedestrian routes, and Chisholm Trail cycle links/Chisholm Trail bridge are rated by the Council as critical to development at Waterbeach Barracks and Cambridge Fringe North East, respectively. This is because a very significant proportion of the trips to and from Cambridge generated by those developments would at least initially need to be by cycle or walking or public transport to enable any development, given the current lack of capacity, and building in congestion factors for North East Cambridge.

Causal link to development (scale of impact)

This is an intermediate calculation, based on the 'criticality' scores described above, that is used to calculate the proportion of housing or employment at a development that will be attributed to each scheme⁵. Each proportion is calculated as the criticality factor for that scheme and development divided by the sum of the criticality factors for all schemes relevant to that development. For example, if a scheme has a criticality score of 4 and the other schemes relevant to that development have values of 2, 1 and 1, say, then this scheme will be attributed 50% $[4/(4+2+1+1)]$ of the housing/employment from that development.

Year of scheme completion

The tool assumes that the transport schemes have been completed by the beginning of the assessment period (2015): i.e. no account is taken of time required for planning, construction, etc.. This is to ensure complete separation of the economic prioritisation process from the assessment of deliverability of particular transport schemes. Cambridgeshire County Council will make their own assessment of deliverability to

⁵ This calculation effectively computes the values for 'scale of impact' (as discussed in Section 2.3 above) based on the 'criticality factors'. The scale of impact a transport scheme can claim will lie within a range, but to enable quantitative assessment, a single value has been assigned.

accompany the economic prioritisation. However, this field allows that assumption to be changed.

Delay factor The qualitative analysis in Chapter 2 discusses that even when a transport scheme relevant to a particular development is completed, there may be a delay in the take-up of housing or creation of employment. This assumption can be set to take that into account.

For housing, it is argued that in Greater Cambridge (and especially in Cambridge itself), demand is so high that there is unlikely to be any delay in take-up, and so this assumption should be set to zero. For employment creation there is more of a case for arguing that, once an employment site has been developed and relevant transport schemes have been completed, there may be a delay in businesses moving onto the site. However, although an assessment could be made of what that delay factor should be for each development, it would be relatively uncertain (e.g. it would be likely to vary depending on the stage of the economic cycle). Although we do want to be able to assess the cumulative impact of each scheme at a particular point in time, it was felt that, because of the uncertainty surrounding the delay factors, and the fact that the different assumptions entered would only vary by a few years (and so make little difference in the medium to long term), the delay factors for schemes relating to employment sites should also be set to zero.

Overall contribution of transport schemes to development This assumption is used to include an assessment of how much of the development at each site can be attributed directly to the transport schemes, rather than indirectly (through better ‘functionality’ / wider connectivity impacts, say). For example, if all the transport schemes relevant to a development are critical, then we might attribute 100% of the housing/employment directly to the schemes, but if all the schemes were only graded as ‘priority’ then we might attribute only 20% of the housing/employment directly. The rules applied are: all schemes are ‘critical’ = 100%; Mix of ‘critical’ and others = 80%; All ‘necessary’ = 60%; Mix of ‘necessary’ and ‘priority’ = 40%; all ‘priority’ = 20%.

Adjustment for ‘optimism bias’ Beyond the ‘Overall contribution to direct employment’ assumption, this option allows the user to make a further assumption about the amount of housing or employment that can be attributed directly to the transport schemes. This is, in effect, a sort of ‘optimism bias’ adjustment, to make sure we don’t over-estimate the likely direct impacts of each scheme. However, sensitivity analysis (see below) has shown that the results are not particularly sensitive to this assumption, and so it was set to zero for the default option.

3.3 Main outputs

The main outputs from the tool are found on the Summary sheet within the spreadsheet tool. This contains the list of transport schemes alongside their expected housing, direct, indirect and total jobs impacts, and a combined ‘housing plus total jobs’ indicator, for the three key years of 2019, 2024 and 2031. The user can then choose to rank the schemes on any of the above. It should be noted that, whilst all new jobs are accounted for in this analysis as those that are not directly impacted upon by the transport schemes are considered under ‘indirect employment’ impacts, not all new houses are accounted for. This is because the housing market does not lend itself to the same consideration of indirect impacts as the employment market, particularly in terms of agglomeration impacts for instance. The ‘direct housing’ and ‘total

employment’ numbers therefore show slightly different things, so do not demonstrate like-for-like impacts.

Sensitivity analysis A range of sensitivity analysis has been undertaken to look at how sensitive the baseline results are to changes in particular assumptions. These are summarised below.

Relative weight of ‘critical’ schemes Sensitivity of the results to using a value of 4 rather than 3 for ‘critical’ schemes was undertaken, and although the housing/employment attributed to critical schemes increases (when 4 is used for critical) and that attributed to schemes that are only graded as ‘necessary’ or ‘priority’ decreases (as would be expected, given the change in relative weight) the ranking of the schemes remains similar (See Table D.1 in Appendix D).

Optimism bias Sensitivity of the results to the alternative assumptions that a further (over and above the assumption made under ‘Overall contribution of transport schemes to development’) 0%, 20% and 30% of housing/employment at a development site should be attributed indirectly to the transport schemes was tested. This test also effectively tests the sensitivity of the results to alternative (lower) assumptions for ‘Overall contribution of transport schemes to development’, as the implied direct contribution of the transport schemes to a development is a combination of these two assumptions. The result was found to remain broadly unchanged, with the top five schemes remaining in the top five under each assumption. (See Table D.2 in Appendix D).

Development trajectories brought forward five years Further sensitivity analysis was carried out to look at the impact on the ranking of bringing the time profiles of the various developments forwards by five years. This was to allow for the fact that the current time profile (in the Annual Monitoring Reports and emerging Local Plans) for some developments is such that they are not expected to start being developed in the short or medium term, but in fact bringing transport schemes forward might allow delivery of some developments also to be brought forwards. The ranking of the schemes was found to remain almost identical after bringing the delivery of developments forward (See Table D.3 in Appendix D).

4 Key findings

Total employment and housing Tables 4.1-4.2 below show the economic prioritisation of the City Deal transport schemes, based on the assumptions described in Chapter 3 above, using cumulative (i.e. 2015-2031) impacts in 2031, for total employment and housing impact respectively.

As discussed previously, the prioritisation does not take into account deliverability of the transport schemes, as Cambridgeshire County Council will make a separate assessment of that. The values (employment or housing) associated with each scheme are based on various assumptions, including current trajectories for employment and housing development as published in the emerging Local Plans and the Local Authorities' Annual Monitoring Reports. They give an overall indication of the *scale* of impact, in order to be able to prioritise the schemes, but individual numbers should not be read as an *exact* estimate of the expected impact of each scheme.

Given the focus on employment and housing respectively, it is not surprising that the ranking of the schemes under the two measures are quite different (many of the schemes will not impact directly on housing). However, the Milton Road bus priority scheme ranks as the top scheme under both measures due to its importance to various housing (Waterbeach Barracks) and employment development (Cambridge Northern

Table 4.1: Prioritisation on cumulative total employment impact in 2031

Rank	Scheme	Employment
1	Milton Road bus priority	3589
2	Madingley Road bus priority	3004
3	City centre capacity improvements/Cross-city cycle improvements	2739
4	A428 to M11 segregated bus route/A428 corridor Park & Ride	2668
5	A1307 Bus priority/A1307 additional Park & Ride	2216
6	Histon Road bus priority	1690
7	Saffron Walden & Haverhill pedestrian/cycle routes	1666
8	Western orbital	1471
9	Chisholm Trail cycle links/Chisholm Trail bridge	1412
10	Project Cambridge - Hills Road	1298
11	A10 dualling and junctions/A14/A10 Milton Interchange	1275
12	Waterbeach Park & Ride/Waterbeach to North Cambridge Busway	1275
13	Bourn Airfield/Cambourne Busway	1225
14	Waterbeach new station	1050
15	Airport Way Park & Ride	963
16	Hauxton Park & Ride	788
17	Hauxton-Trumpington Busway	788
18	Newmarket Road bus priority	780
19	Ring road bus priority Addenbrooke's to Newmarket Road/Newmarket Road to Cambridge Science Park Station busway	739
20	Waterbeach cycle/pedestrian routes	737
21	Bourn Airfield/Cambourne cycle routes	613
22	Cambridge to Royston cycle link	551
23	Foxton level crossing and interchange	314

Fringe East and Waterbeach Barracks) sites. Similarly, the Madingley Road bus priority and A428 to M11 segregated bus route/A428 corridor Park & ride both rank within the top four schemes under both measures, given the importance of the Bourn Airfield/Cambourne developments to both employment and housing. Cambridgeshire County Council will combine the rankings under the two measures to give an overall ranking for prioritisation which also includes consideration of deliverability.

Table 4.2: Prioritisation on cumulative housing impact in 2031

Rank	Scheme	Housing
1	Milton Road bus priority	1433
2	Histon Road bus priority	1331
3	A428 to M11 segregated bus route/A428 corridor Park & Ride	844
4	Madingley Road bus priority	844
5	Bourn Airfield/Cambourne Busway	422
6	Newmarket Road bus priority	378
7	Airport Way Park & Ride	378
8	Bourn Airfield/Cambourne cycle routes	211
9	Waterbeach cycle/pedestrian routes	204
10	A10 dualling and junctions/A14/A10 Milton Interchange	204
11	Waterbeach Park & Ride/Waterbeach to North Cambridge Busway	204
12	Waterbeach new station	204
13	Chisholm Trail cycle links/Chisholm Trail bridge	189
14	A1307 Bus priority/A1307 additional Park & Ride	115
15	City centre capacity improvements/Cross-city cycle improvements	95
16	Saffron Walden & Haverhill pedestrian/cycle routes	57
17	Project Cambridge - Hills Road	0
18	Foxton level crossing and interchange	0
19	Hauxton Park & Ride	0
20	Cambridge to Royston cycle link	0
21	Hauxton-Trumpington Busway	0
22	Ring road bus priority Addenbrooke's to Newmarket Road/Newmarket Road to Cambridge Science Park Station busway	0
23	Western orbital	0

Direct employment Table 4.3 shows the ranking if using only *direct* employment impacts, to test the sensitivity of the overall result on the assumption about indirect impacts. It shows that the only scheme to significantly change position when including/excluding indirect impacts is the Histon Road bus priority.

Table 4.3: Prioritisation on cumulative direct employment impact in 2031

Rank	Scheme	Employment
1	Madingley Road bus priority	2377
2	Milton Road bus priority	2334
3	A428 to M11 segregated bus route/A428 corridor Park & Ride	2041
4	A1307 Bus priority/A1307 additional Park & Ride	1589
5	City centre capacity improvements/Cross-city cycle improvements	1484
6	Saffron Walden & Haverhill pedestrian/cycle routes	1352
7	Western orbital	844
8	Chisholm Trail cycle links/Chisholm Trail bridge	785
9	Project Cambridge - Hills Road	671
10	A10 dualling and junctions/A14/A10 Milton Interchange	648
11	Waterbeach Park & Ride/Waterbeach to North Cambridge Busway	648
12	Bourn Airfield/Cambourne Busway	598
13	Hauxton Park & Ride	474
14	Hauxton-Trumpington Busway	474
15	Histon Road bus priority	435
16	Waterbeach cycle/pedestrian routes	423
17	Waterbeach new station	423
18	Airport Way Park & Ride	336
19	Bourn Airfield/Cambourne cycle routes	299
20	Cambridge to Royston cycle link	237
21	Newmarket Road bus priority	153
22	Ring road bus priority Addenbrooke's to Newmarket Road/Newmarket Road to Cambridge Science Park Station busway	112
23	Foxton level crossing and interchange	0

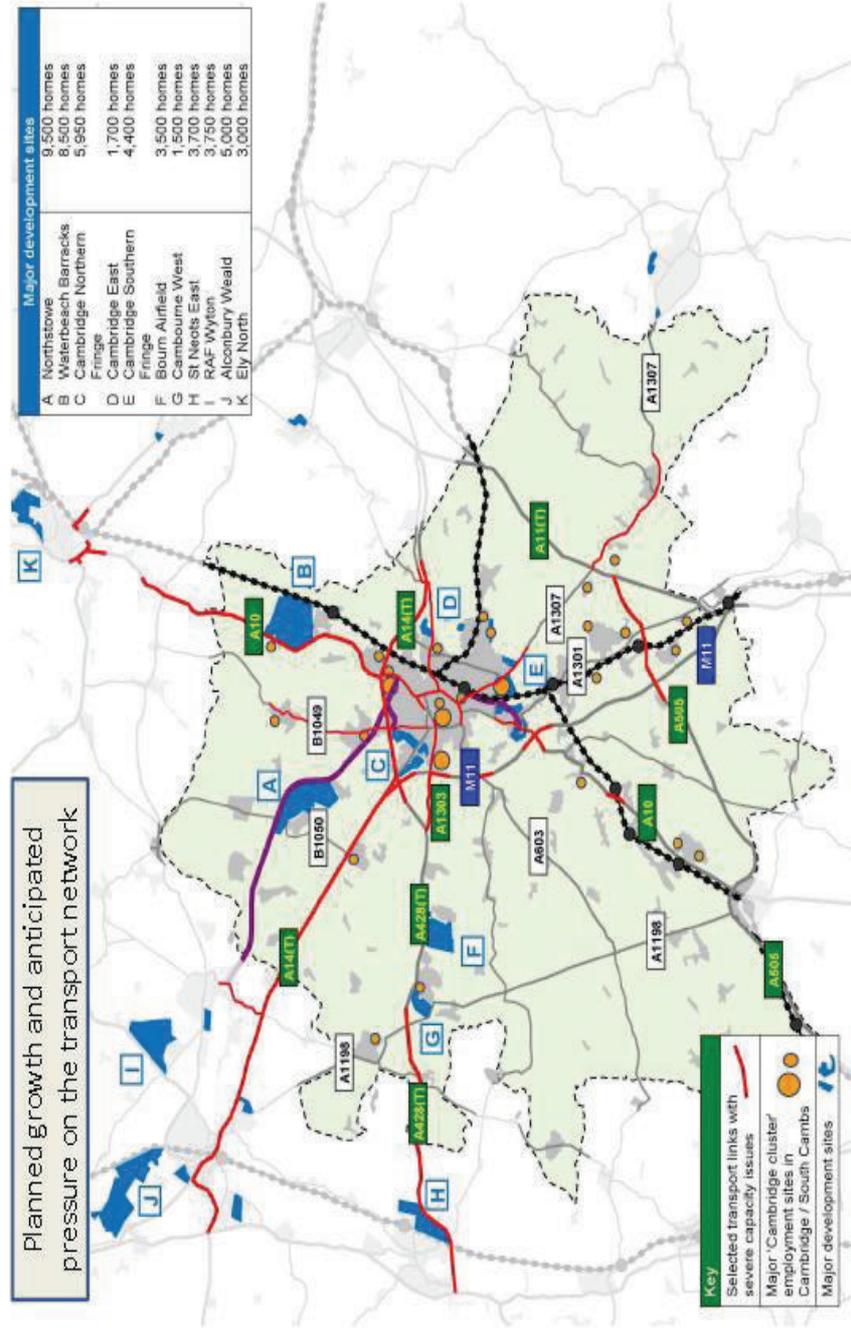
Appendices

Appendix A: City Deal Transport Schemes⁶

Programme area	Scheme	Est. cost (£m)
A428 corridor (Cambourne)	A428 to M11 segregated bus links	13.0
	A428 corridor Park & Ride	11.5
	Madingley Road bus priority	34.6
	Bourn Airfield/Cambourne busway	28.8
A1307 corridor (Haverhill)	A1307 bus priority	36.0
	Additional Park & Ride capacity – A1307	7.2
Pedestrian and cycle networks – City	Chisholm Trail links (cycle links parallel to the railway line north of Cambridge Station)	3.0
	Chisholm Trail bridge	4.5
	City centre capacity improvements	7.2
	Cross-city cycle improvements	15.5
Pedestrian and cycle networks – inter-urban	Bourn Airfield/Cambourne pedestrian/cycle route programme	8.4
	Saffron Walden and Haverhill pedestrian/cycle route programme	4.8
	Cambridge to Royston cycle link	7.2
	Waterbeach pedestrian/cycle route programme	14.4
Cambridge radials – Milton Road / Histon Road	Histon Road, Cambridge bus priority	4.3
	Milton Road, Cambridge bus priority	23.0
Cambridge radials – Hills Road	Project Cambridge, Hills Road	25.8
Cambridge radials – Newmarket Road	Newmarket Road bus priority phase 1, Elizabeth Way to Abbey Stadium	54.8
	Newmarket Road bus priority phase 2, Abbey Stadium to Airport Way	39.8
	Newmarket Road bus priority phase 3, Airport Way Park & Ride	17.3
A10 corridor south (Royston)	Foxton level crossing and interchange	21.6
	Hauxton Park & Ride	17.3
	Hauxton-Trumpington busway	15.8
Cambridge Orbital	Ring road bus priority – Addenbrooke's to Newmarket Road	18.7
	Newmarket Road to Cambridge Science Park Station busway	64.7
	Western Orbital	23.0
A10 corridor north (Waterbeach)	A10 dualling and junctions	63.4
	A14/A10 Milton Interchange	66.4
	Waterbeach Park & Ride	11.5
	Waterbeach Barracks to North Cambridge busway	46.1
	Waterbeach new station	33.1
Total		752.7

⁶ Schemes that were suggested by an earlier EAST assessment to be most deliverable and to deliver the greatest immediate impacts are shown in blue. Source: Cambridgeshire County Council.

Appendix B: Transport corridors in and around Cambridge



Appendix C: Peer Review of TEAR and Economic Prioritisation Tool by SDG

The report on the following pages was prepared by Steer Davies Gleave as a peer review of the final draft (17/12/14) of the Transport Economic Assessment Report and Economic Prioritisation Tool.

This report (TEAR) incorporates changes to reflect SDG's comments, as appropriate.



Report

To Mike May-Gillings (Cambridge Econometrics)

Cc Jeremy Smith (Cambridgeshire County Council), Ben Gardiner (Cambridge Econometrics), Christine Doel (SQW), Sharon Daly (Steer Davies Gleave)

From Steven Bishop

Date 17 December 2014

Project Greater Cambridge City Deal – Initial Economic Prioritisation

Project No. 22758101

Peer Review – Key Logic Chains for the Impacts of City Deal Schemes

Overview

1. Steer Davies Gleave's role within this commission is outlined in the joint response submitted by Cambridge Econometrics and SQW, to "provide a peer review function to assure our approach and results, and further the integrity of this independent assessment."
2. Steer Davies Gleave is an expert transport planning consultancy and the project team involved in this review includes:
 - Sharon Daly BEc (Accounting), Certified Practising Accountant (ASCPA), MAPM: Head of UK Transport Planning with almost 20 years; transport planning expertise and Independent Technical Evaluator for the Greater Cambridge Greater Peterborough Local Transport Body.
 - Steven Bishop BA Hons (Geog), MA Cantab (Geog), PRINCE II: Deputy Head of UK Transport Planning, over 10 years' transport planning expertise, and former member of the Cabinet Office's Cities Policy Unit and part of the team that led on the Greater Cambridge City Deal.
3. This report is the second stage of the peer review process. It is part of the assurance process of the analysis and prioritisation of schemes as reported and conducted in the Transport Economic Assessment Report¹ and Economic Prioritisation Tool spreadsheet² supplied by Cambridge Econometrics and SQW.
4. The review is in the form of a number of comments presented in tables overleaf, along with an 'RAG' assessment of the importance and urgency of the comments. A 'red' (R) assessment is for a comment which must be addressed before any further work is conducted; an 'amber' (A) assessment is for a comment which should be addressed in the next iteration of this document and for inclusion in future work; and a 'green' (G) assessment is for a comment that is for consideration only.

¹ Document: CityDeal_TEAR_171214.pdf (Received 17 December 2014)

² Document: City Deal_EconomicPrioritisationTool_Baseline.xls (Received 17 December 2014)

Review of Transport Economic Assessment Report

1. Introductory Text

Document Reference	Comment	Assessment
Page 1 / Section 1.1. / Paragraph 1	Should note that the City Deal will not only help create over 33,300 new homes, but "accelerate" their delivery. It will also "enable delivery of 1,000 extra new homes on rural exception sites".	A/G
Page 1 / Section 1.2. / Paragraph 1	Where are the other additional benefits recorded for each scheme / package of schemes?	A

2. Qualitative Assessment

Document Reference	Comment	Assessment
Page 3 / Section 2.1 / Paragraph 1	The City Deal is not only important for Cambridge, but the Greater Cambridge area (and nationally important).	A/G
Page 3 / Section 2.1 / Paragraph 1	Do not agree that the "bottom line" of the City Deal is "fundamentally different", although some differences are acknowledged regarding key metrics along with the difficulty in modelling the economic impact of transport schemes. However, this does not negate the need for ex-ante appraisal using current methodologies - the Local Enterprise Partnership will likely require transport schemes to be subject to further appraisal against DfT metrics, broadly in line with HM Treasury's <i>The Green Book Appraisal and Evaluation in Central Government</i> and Guidance on Appraisal and the Department for Transport's online <i>Transport Analysis Guidance (webTAG)</i> .	A
Page 5 / Section 2.2. / Paragraph 2 and 5	Journey time savings and increased accessibility and also important along with improvements to "capacity and reliability".	A
Page 5 / Section 2.3 / Paragraph 1 (also Page 13 / Section 3.2 / Paragraph 1)	Recommend caveating the scale of impact a scheme can claim is a range, but for the sake of assessment a single value has been assigned.	A

3. Quantitative Assessment

Document Reference	Comment	Assessment
Page 11 / Section 3.2 / Paragraph 1 and Page 13 / Section 3.1 / Paragraph 1	Further rationale should be given to why the 4, 2, 1 scale has been used for 'criticality for development' when the 'scale of impact' scale is percentage based / different, especially when values from both scales are multiplied together as part of the assessment to calculate a 'causal link to development' percentage.	A
Page 13 / Section 3.3 / Paragraph 4	Does the sensitivity analysis of optimism bias provide a suitable test of the scale used for 'scale of impact'? If so, provide justification, or if not, provide reason why sensitivity testing is not required.	A
General	Consideration could be given to if the development is scalable or a 'counterfactual' level of development without the scheme (e.g. fewer houses resulting in fewer trips, resulting in planning permission being granted). Similarly, is there evidence that the scheme / package of schemes along a corridor does provide sufficient transport benefits to permit all proposed development?	A
General	Recommend that further analysis is conducted using available models of the demand-side impacts of these schemes.	G

4. Key Findings and Appendices

Document Reference	Comment	Assessment
General	The brief did specify that consideration of deliverability was subject to another study, but within in Appendix A, the earliest start and finish date of each scheme could be listed as a reference aid.	G
General	Might relative unit cost metrics be derived meaningfully from the cost of the scheme and the scale of impacts against the three metrics?	A/G

Other Comments

Document Reference	Comment	Assessment
General	Description of the developments (scale, land use, timescales) and transport schemes would be beneficial in the report, including narrative of the logic chain and any contingencies (e.g. impact or reliance of a Growth Deal scheme).	G

Economic Prioritisation Tool

5. Several of the comments which apply to the report have ramifications for the assessment and should be considered for both the report and the assessment tool, principally, assessment of counterfactual, contingency, demand-side impacts, and evidence of scheme impact (i.e. schemes can actually accommodate the full scale of development). Additional comments are identified below.

Info Worksheet

Document Reference	Comment	Assessment
Cell E25 and Cell E29	The assumptions table would benefit from further description of the baseline / rule definitions for the scales.	A/G
Cell E37 and Cell E38	It should be noted that the assessment has not challenged the job and housing assumptions as provided in the sources referenced.	A
Cell E37 and Cell E38	Do the sources referred to also including a profiling of the ramp-up in job or housing numbers for each corridor, as shown in the Assumptions worksheet?	A/G

DirectHousing / DirectEmployment / IndirectEmployment Worksheets

Document Reference	Comment	Assessment
General	Providing explanation in the Info worksheet or in the individual worksheets of the pink shading of cells (e.g. DirectHousing J14:N14)	A/G

Other Comments

6. There is a final consideration regarding the impact of the development and transport schemes in their entirety. Whilst transport schemes might enable economic development at a corridor level, the impact on the functioning of the city centre may be so detrimental as to undermine fully the benefits claimed. How this is being considered either as part of this assessment or in parallel or future studies should be made.

Appendix D: Sensitivity Analysis

Table D.1: Total (direct and indirect) employment impact by 2031, showing sensitivity analysis on criticality

Optimism bias = 20%. Top criticality = 3		Optimism bias = 20%. Top criticality = 4	
Milton Road bus priority	3560	Milton Road bus priority	3741
Madingley Road bus priority	3337	Madingley Road bus priority	3439
A428 to M11 segregated bus route/A428 corridor	2833	A428 to M11 segregated bus route/A428 corridor	2935
Park & Ride		Park & Ride	
City centre capacity improvements/Cross-city cycle improvements	2634	City centre capacity improvements/Cross-city cycle improvements	2698
A1307 Bus priority/A1307 additional Park & Ride	2534	A1307 Bus priority/A1307 additional Park & Ride	2511
Saffron Walden & Haverhill pedestrian/cycle routes	2010	Saffron Walden & Haverhill pedestrian/cycle routes	1999
Western orbital	1462	Western orbital	1439
Chisholm Trail cycle links/Chisholm Trail bridge	1351	Chisholm Trail cycle links/Chisholm Trail bridge	1379
Project Cambridge - Hills Road	1344	Project Cambridge - Hills Road	1321
Bourn Airfield/Cambourne Busway	1251	Histon Road bus priority	1256
Histon Road bus priority	1170	A10 dualling and junctions/A14/A10 Milton Interchange	1123
A10 dualling and junctions/A14/A10 Milton Interchange	1088	Waterbeach Park & Ride/Waterbeach to North Cambridge Busway	1123
Waterbeach Park & Ride/Waterbeach to North Cambridge Busway	1088	Bourn Airfield/Cambourne Busway	1062
Waterbeach new station	918	Hauxton Park & Ride	868
Hauxton Park & Ride	879	Hauxton-Trumpington Busway	868
Hauxton-Trumpington Busway	879	Waterbeach new station	843
Airport Way Park & Ride	841	Airport Way Park & Ride	818
Waterbeach cycle/pedestrian routes	749	Waterbeach cycle/pedestrian routes	686
Bourn Airfield/Cambourne cycle routes	625	Newmarket Road bus priority	544
Newmarket Road bus priority	567	Bourn Airfield/Cambourne cycle routes	531
Cambridge to Royston cycle link	524	Cambridge to Royston cycle link	513
Ring road bus priority Addenbrooke's to Newmarket Road/Newmarket Road to Cambridge Science Park Station busway	507	Ring road bus priority Addenbrooke's to Newmarket Road/Newmarket Road to Cambridge Science Park Station busway	454
Foxton level crossing and interchange	168	Foxton level crossing and interchange	157

Table D.2: Total (direct and indirect) employment impact by 2031, showing sensitivity analysis on optimism bias

Optimism bias = 30%. Top criticality = 4		Optimism bias = 20%. Top criticality = 4		Optimism bias = 0%. Top criticality = 4	
Milton Road bus priority	3817	Milton Road bus priority	3741	Milton Road bus priority	3589
Maddingley Road bus priority	3657	Maddingley Road bus priority	3439	Maddingley Road bus priority	3004
A428 to M11 segregated bus route/A428 corridor Park & Ride	3070	A428 to M11 segregated bus route/A428 corridor Park & Ride	2935	City centre capacity improvements/Cross-city cycle improvements	2739
City centre capacity improvements/Cross-city cycle improvements	2677	City centre capacity improvements/Cross-city cycle improvements	2698	A428 to M11 segregated bus route/A428 corridor Park & Ride	2668
A1307 Bus priority/A1307 additional Park & Ride	2660	A1307 Bus priority/A1307 additional Park & Ride	2511	A1307 Bus priority/A1307 additional Park & Ride	2216
Saffron Walden & Haverhill pedestrian/cycle routes	2166	Saffron Walden & Haverhill pedestrian/cycle routes	1999	Histon Road bus priority	1690
Western orbital	1424	Western orbital	1439	Saffron Walden & Haverhill pedestrian/cycle routes	1666
Chisholm Trail cycle links/Chisholm Trail bridge	1362	Chisholm Trail cycle links/Chisholm Trail bridge	1379	Western orbital	1471
Project Cambridge - Hills Road	1333	Project Cambridge - Hills Road	1321	Chisholm Trail cycle links/Chisholm Trail bridge	1412
A10 dualling and junctions/A14/A10 Milton Interchange	1048	Histon Road bus priority	1256	Project Cambridge - Hills Road	1298
Waterbeach Park & Ride/Waterbeach to North Cambridge	1048	A10 dualling and junctions/A14/A10 Milton Interchange	1123	A10 dualling and junctions/A14/A10 Milton Interchange	1275
Waterbeach Park & Ride/Waterbeach to North Cambridge Busway	1039	Waterbeach Park & Ride/Waterbeach to North Cambridge Busway	1123	Waterbeach Park & Ride/Waterbeach to North Cambridge Busway	1275
Bourn Airfield/Cambourne Busway	981	Bourn Airfield/Cambourne Busway	1062	Bourn Airfield/Cambourne Busway	1225
Hauxton Park & Ride	909	Hauxton Park & Ride	868	Waterbeach new station	1050
Hauxton-Trumpington Busway	909	Hauxton-Trumpington Busway	868	Airport Way Park & Ride	963
Airport Way Park & Ride	745	Waterbeach new station	843	Hauxton Park & Ride	788
Waterbeach new station	740	Airport Way Park & Ride	818	Hauxton-Trumpington Busway	788
Waterbeach cycle/pedestrian routes	661	Waterbeach cycle/pedestrian routes	686	Newmarket Road bus priority	780
Cambridge to Royston cycle link	494	Newmarket Road bus priority	544	Ring road bus priority Addenbrooke's to Newmarket	739
Bourn Airfield/Cambourne cycle routes	490	Bourn Airfield/Cambourne cycle routes	531	Road/Newmarket Road to Cambridge Science Park Station busway	737
Newmarket Road bus priority	426	Cambridge to Royston cycle link	513	Waterbeach cycle/pedestrian routes	613
Ring road bus priority Addenbrooke's to Newmarket	312	Ring road bus priority Addenbrooke's to Newmarket	454	Bourn Airfield/Cambourne cycle routes	551
Road/Newmarket Road to Cambridge Science Park Station busway		Road/Newmarket Road to Cambridge Science Park Station busway		Cambridge to Royston cycle link	
Foxton level crossing and interchange	79	Foxton level crossing and interchange	157	Foxton level crossing and interchange	314

Table D.3: Total (direct and indirect) employment impact by 2031, showing sensitivity analysis on development trajectories brought forward by five years

Optimism bias = 20%. Top criticality = 4 Timescale of developments - as in emerging Local Plans and Annual Monitoring Reports		Optimism bias = 20%. Top criticality = 4 Timescale of developments - brought forward five years	
Milton Road bus priority	3308	Milton Road bus priority	4208
Madingley Road bus priority	3307	Madingley Road bus priority	4067
City centre capacity improvements/Cross-city cycle improvements	2779	City centre capacity improvements/Cross-city cycle improvements	3279
A428 to M11 segregated bus route/A428 corridor Park & Ride	2464	A428 to M11 segregated bus route/A428 corridor Park & Ride	3047
Histon Road bus priority	2023	Histon Road bus priority	2419
A1307 Bus priority/A1307 additional Park & Ride	1871	A1307 Bus priority/A1307 additional Park & Ride	2330
Western orbital	1566	Western orbital	1858
Chisholm Trail cycle links/Chisholm Trail bridge	1369	A10 dualling and junctions/A14/A10 Milton Interchange	1655
A10 dualling and junctions/A14/A10 Milton Interchange	1350	Waterbeach Park & Ride/Waterbeach to North Cambridge Busway	1655
Waterbeach Park & Ride/Waterbeach to North Cambridge Busway	1350	Waterbeach new station	1655
Waterbeach new station	1350	Saffron Walden & Haverhill pedestrian/cycle routes	1651
Bourn Airfield/Cambourne Busway	1340	Bourn Airfield/Cambourne Busway	1637
Saffron Walden & Haverhill pedestrian/cycle routes	1307	Chisholm Trail cycle links/Chisholm Trail bridge	1598
Project Cambridge - Hills Road	1227	Project Cambridge - Hills Road	1451
Airport Way Park & Ride	1059	Airport Way Park & Ride	1247
Newmarket Road bus priority	968	Newmarket Road bus priority	1160
Ring road bus priority Addenbrooke's to Newmarket Road/Newmarket Road to Cambridge Science Park Station busway	968	Ring road bus priority Addenbrooke's to Newmarket Road/Newmarket Road to Cambridge Science Park Station busway	1131
Waterbeach cycle/pedestrian routes	749	Waterbeach cycle/pedestrian routes	957
Hauxton Park & Ride	682	Hauxton Park & Ride	836
Hauxton-Trumpington Busway	682	Hauxton-Trumpington Busway	836
Bourn Airfield/Cambourne cycle routes	669	Bourn Airfield/Cambourne cycle routes	818
Cambridge to Royston cycle link	564	Cambridge to Royston cycle link	679
Foxton level crossing and interchange	445	Foxton level crossing and interchange	521

Table 2: Priority list of schemes without consideration of deliverability or link to development timescales

Unweighted Rank	Scheme	Direct housing	Total employment	Indexed score	Scheme Cost (£M)	Score weighted by cost	Weighted Rank
1	Milton Road bus priority	100.0	88.3	188.3	23.04	8.17	3
2	Madingley Road bus priority	58.9	100.0	158.9	34.56	4.60	6
3	Histon Road bus priority	92.9	40.7	133.5	4.28	31.20	1
4	A428 to M11 segregated bus route / A428 corridor Park & Ride	58.9	68.4	127.3	24.48	5.20	5
5	City centre capacity improvements / Cross-city cycle improvements	6.6	68.5	75.1	22.66	3.31	8
6	A1307 bus priority / A1307 additional Park & Ride	8.0	55.4	63.4	43.20	1.47	14
7	Bourn Airfield / Cambourne busway	29.4	30.0	59.5	28.80	2.07	11
8	Airport Way Park & Ride	26.4	23.3	49.7	17.28	2.88	9
9	Chisholm Trail cycle links / Chisholm Trail bridge	13.2	33.9	47.1	8.40	5.61	4
10	Saffron Walden & Haverhill corridor cycle / pedestrian routes	4.0	42.0	45.9	4.80	9.57	2
11	Newmarket Road bus priority	26.4	18.7	45.0	94.62	0.48	20
12=	A10 dualling and junctions / A14 / A10 Milton Interchange	14.2	30.4	44.6	33.12	1.35	15
12=	Waterbeach new station	14.2	30.4	44.6	57.60	0.77	19
12=	Waterbeach Park & Ride / Waterbeach to North Cambridge busway	14.2	30.4	44.6	129.76	0.34	21
15	Western orbital	0.0	37.8	37.8	23.04	1.64	13
16	Waterbeach cycle / pedestrian routes	14.2	17.8	32.0	14.40	2.22	10
17	Project Cambridge - Hills Road	0.0	31.9	31.9	25.75	1.24	16
18	Bourn Airfield / Cambourne cycle / pedestrian routes	14.7	15.0	29.8	8.40	3.54	7
19=	Hauxton Park & Ride	0.0	19.5	19.5	15.84	1.23	17
19=	Hauxton – Trumpington busway	0.0	19.5	19.5	17.28	1.13	18
21	Ring road bus priority Addenbrooke's to Newmarket Road / Newmarket Road to Cambridge Science Park Station busway	0.0	17.4	17.4	83.46	0.21	23
22	Cambridge to Royston cycle link	0.0	13.4	13.4	7.20	1.87	12
23	Foxton level crossing and interchange	0.0	7.4	7.4	21.60	0.34	22

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Table 3: Summary of individual schemes

Programme area	Scheme	Est. cost (£m)
A428 corridor (Cambourne)	<p>A428 to M11 segregated bus links</p> <p><i>High quality segregated bus priority measures between the A428 junction with the A1303 and the junction of the M11. The scheme may include on-line or off-line bus priority measures between the A428 and M11. The scheme would ensure that a bus journey between the A428/A1303 junction and the M11 is direct and unaffected by congestion caused by general traffic on the corridor. This scheme is part of the improvements along the whole of the A428 corridor to accommodate further additional growth focussed on West Cambourne and Bourn Airfield.</i></p>	13.0
	<p>A428 corridor Park & Ride</p> <p><i>One or more Park & Ride or rural interchange sites accessed from the A428, to take advantage of the bus priority measures on the A1303 between the A428 and the M11 in order to intercept more Cambridge-bound general traffic on the A428. Additional Park & Ride capacity along the corridor would improve the corridor in a number of ways. Through the provision of segregated facilities along the corridor, Park & Ride buses would benefit from the same advantages in terms of journey time and reliability as other services on the corridor, making it an attractive option for people who would otherwise drive all the way to Madingley Road Park and Ride or further into the city centre.</i></p>	11.5
	<p>Madingley Road bus priority</p> <p><i>High quality on-line bus priority measures between M11 and Queen's Road, Cambridge. The aim of the scheme is to ensure that a bus journey between the M11 and Queen's Road, is direct and unaffected by congestion caused by general traffic on the corridor. The link will form part of a longer segregated bus route between the Caxton Gibbet roundabout and Cambridge, helping to facilitate development both at the West Cambourne and Bourn Airfield sites and also further afield in St Neots.</i></p>	34.6
	<p>Bourn Airfield/Cambourne busway</p> <p><i>Segregated bus links from the A428 at Caxton Gibbet connecting West Cambourne, Cambourne and Bourn Airfield and continuing a segregated route to the junction of the A1303/A428. The link will help to facilitate the development of strategic development sites at West Cambourne and Bourn Airfield by forming part of a longer segregated bus route between this part of the A428 and Cambridge. The route in its entirety will also help to connect strategic development sites in St Neots and also significant University-based employment sites on the west of Cambridge.</i></p>	28.8
A1307 corridor (Haverhill)	<p>A1307 bus priority</p> <p><i>Bus priority at key congestion points on the A1307, to include:</i></p> <ul style="list-style-type: none"> • <i>Bus priority in particular locations along the A1307</i> • <i>Segregated car access to Babraham Park & Ride site</i> • <i>Transport interchanges at key locations along the corridor</i> • <i>Improved bus journey times between Haverhill and Cambridge</i> 	36.0

Programme area	Scheme	Est. cost (£m)
	<p><i>The scheme would help increase the attractiveness of the corridor as a place to invest and would also increase the desirability and accessibility of planned new housing in Haverhill.</i></p>	
	<p><i>Additional Park & Ride capacity – A1307 Provision of an outer Park & Ride site on the A1307, located between Linton and the A11 to provide additional Park & Ride capacity on the corridor and to intercept more car trips further out from Cambridge, thus freeing up more roadspace closer to the city. The scheme would help increase the attractiveness of the corridor as a place to invest and would also increase the desirability and accessibility of planned new housing in Haverhill.</i></p>	7.2
Pedestrian and cycle networks – City	<p><i>Chisholm Trail links (cycle links parallel to the railway line north of Cambridge Station) A high quality strategic cycle route that will extend along the rail corridor from Cambridge Station in the south of the city through to the Cambridge Science Park Station, providing connections between the Science and Business Parks in the north and the commercial hub around Cambridge Station and the Biomedical Campus.</i></p>	3.0
Pedestrian and cycle networks – City	<p><i>Chisholm Trail bridge A key part of the Chisholm Trail (see above) which could be delivered in advance of the entire route to provide an additional river crossing for pedestrians and cyclists between Chesterton and Ditton Meadows (Abbey Ward).</i></p>	4.5
Pedestrian and cycle networks – City	<p><i>City centre capacity improvements Measures to improve capacity for cycling movements in the city centre in order to encourage modal shift away from the private car and towards cycling.</i></p> <ul style="list-style-type: none"> <i>• A new or extended city centre cycle park</i> <i>• Improved surfacing of pavement and off road pedestrian and cycle provision, especially in areas where surfaces are used by servicing vehicles.</i> <i>• Streetscape enhancements and measures to improve the legibility of the pedestrian and cycle network in the city centre</i> <p><i>A new facility or extended cycle park facility will provide capacity for new trips, help ensure that demand is not suppressed, and reduce the number of cycles that will otherwise be attached to any available railing, lamp post or sign.</i></p>	7.2
Pedestrian and cycle networks – City	<p><i>Cross-city cycle improvements To encourage modal shift away from the private car and towards cycling by:</i></p> <ul style="list-style-type: none"> <i>• Developing a network of segregated cycle routes on arterial roads, safe junctions, crossings and an attractive network following quieter streets and open spaces</i> <i>• Reviewing all of the radial routes into the city to make them as safe, direct and attractive as possible</i> <i>• Enhancements through measures such as clear signage, cycle parking, public bike pumps and prominently-deployed bicycle counters</i> 	15.5

Programme area	Scheme	Est. cost (£m)
	<ul style="list-style-type: none"> • Increase in cycling numbers in the city <p>The upgrade and expansion of the Cambridge cycle network will create a realistic scenario whereby less confident cyclists would be able to make the majority of their trips on routes away from motor traffic, lifting cycling levels to a figure nearing 40%. This figure means that highway capacity could be released in the city, thus making way for further growth to be accommodated.</p>	
Pedestrian and cycle networks – inter-urban	<p>Bourn Airfield/Cambourne pedestrian/cycle route programme</p> <p>Direct, segregated high quality pedestrian/cycle links to west Cambridge, Papworth Everard, Highfields, Hardwick, Caxton, Bourn, Caldecote, Comberton, Bar Hill and Dry Drayton. The schemes would encourage more short and medium-length journeys to be undertaken on foot or by bike through the provision of safe, high quality links which are segregated from general traffic wherever possible. A fully segregated, direct route into Cambridge from the new developments along the A428 is necessary to encourage significant numbers of people to use bike instead of their car into Cambridge.</p>	8.4
	<p>Saffron Walden and Haverhill pedestrian/cycle route programme</p> <p>To deliver a comprehensive integrated network for cycling and walking along and within the corridor and to ensure good access between key residential and employment centres. The proposal aims to provide direct, safe and accessible links for cycling in the corridor by constructing new paths and crossings, and by improving existing ones. Many of the business parks are notoriously difficult to access by means other than private car – although some put on shuttle buses for staff, there is evidence to suggest that there is a suppressed demand for cycling to many of these sites. Several of these sites are located within cycling distance of a bus route or rail station, but there are few options to cycle to/from these points. This represents a considerable missed opportunity and a real constraint on their growth potential.</p>	4.8
	<p>Cambridge to Royston cycle link</p> <p>The creation of a high-quality network of foot and cycle routes linking key destinations along the A10 corridor between Cambridge and Royston, including:</p> <ul style="list-style-type: none"> • Completion of the strategic 'trunk' route along the A10 (south) between Cambridge and Royston • Links from the strategic route to employment centres, villages, railway stations/interchanges and other key destinations within the corridor <p>There is great potential in this corridor to enhance multi-modal journeys by enhancing the links between cycle and bus/rail. This would increase mobility choice for people, reduce congestion and negate the need for extensive car parks at stations, as well as reducing the likelihood of residential streets being clogged with commuter cars</p>	7.2

Programme area	Scheme	Est. cost (£m)
	<p>Waterbeach pedestrian/cycle route programme</p> <p><i>A comprehensive network of high quality pedestrian/cycle routes linking the town with key destinations in Cambridge and the surrounding villages. This could include a segregated cycle lane alongside the chosen route of the bus corridor, connecting Waterbeach to Landbeach and onwards to Cambridge, and a network of rural cycle links connecting surrounding villages to the strategic cycle route into Cambridge, the Park & Ride, the village colleges at Impington and Cottenham Village Colleges. Waterbeach is ideally located for cycling into Cambridge, however cycling along the A10 is not a safe or enjoyable option in its current form. Research has shown that fully segregated routes for cyclists are key to increasing the uptake of cycling. Therefore, a fully segregated, direct route into Cambridge from the new development is necessary to encourage significant numbers of people to use bike instead of their car into Cambridge.</i></p>	14.4
Cambridge radials – Milton Road / Histon Road	<p>Histon Road, Cambridge bus priority</p> <p><i>High quality on-line bus priority measures between the Histon Interchange and the junction of Histon Road, Huntingdon Road and Victoria Road, Cambridge. The aim of the scheme is to ensure that a bus journey between the Histon Interchange and the junction of Histon Road, Huntingdon Road and Victoria Road, is direct and unaffected by congestion caused by general traffic on the corridor. The link will form part of a longer segregated bus route between a new P&R site to the north of the Waterbeach development and Cambridge, helping to facilitate development both at Waterbeach and also further afield in Ely and (outside the strategy area).</i></p>	4.3
	<p>Milton Road, Cambridge bus priority</p> <p><i>High quality on-line bus priority measures between the Milton Interchange and Mitcham's Corner, Cambridge. The aim of the scheme is to ensure that bus journeys between the Milton Interchange and Mitcham's Corner are direct and unaffected by congestion caused by general traffic on the corridor. The link will form part of a longer segregated bus route between a new P&R site to the north of the Waterbeach development and Cambridge, helping to facilitate development both at Waterbeach and also further afield in Ely (outside the strategy area).</i></p>	23.0
Cambridge radials – Hills Road	<p>Project Cambridge, Hills Road</p> <p><i>Connecting Cambridge rail station and the city centre using a high quality 'green link'. The aim of this scheme is to significantly improve the experience for pedestrians and cyclists travelling between the city centre and Cambridge rail station, including a much improved public realm. Measures could include:</i></p> <ul style="list-style-type: none"> • <i>Improved cycle and pedestrian connectivity between the city centre and station</i> • <i>Hills Road and Regents Street given a sense of place, not just a place to pass through – commercial and social value added</i> • <i>Widened pavements, increased cycle parking, reduced street clutter</i> 	25.8

Programme area	Scheme	Est. cost (£m)
Cambridge radials – Newmarket Road	<p>Newmarket Road bus priority phase 1, Elizabeth Way to Abbey Stadium <i>High quality on-line bus priority and segregated busway measures along the length of Newmarket Road, between the junction with East Road/Elizabeth Way and the junction with Airport Way to ensure that a bus journey between these points is direct and unaffected by congestion caused by general traffic on the corridor. Scheme likely to include a Busway between Elizabeth Way and the Abbey Stadium. The link will form part of a wider high quality bus network around the city, helping to facilitate major development both in the city and outside it.</i></p>	54.8
	<p>Newmarket Road bus priority phase 2, Abbey Stadium to Airport Way <i>High quality on-line bus priority and segregated busway measures along the length of Newmarket Road, between the Abbey Stadium and the junction with Airport Way to ensure that a bus journey between these points is direct and unaffected by congestion caused by general traffic on the corridor. The link will form part of a wider high quality bus network around the city, helping to facilitate major development both in the city and outside it.</i></p>	39.8
	<p>Newmarket Road bus priority phase 3, Airport Way Park & Ride <i>Relocation of Newmarket Road P&R site to Airport Way and expansion to 2,500 spaces in order to intercept more car journeys before they reach the city. This scheme will help to deliver a high quality public transport corridor on this side of the city.</i></p>	17.3
A10 corridor south (Royston)	<p>Foxton level crossing and interchange <i>The provision of a grade-separated crossing facility of the London King's Cross –Cambridge railway line as it crosses the A10 and the introduction of a rural interchange using the resultant road layout. The scheme would remove the disruption along the A10 (south) corridor that is regularly caused to traffic through the lowering of the barriers at Foxton level crossing, and would also provide a better means by which people living in the more rural areas can interchange between modes to access the improved rail service along the corridor. The A10 carries approximately 12,000 vehicle trips per day (12 hour count) and the level crossing barrier operates some 76 times in a 12 hour period for an average time of 2 minutes and 20 sections per operation (almost 3 hours per day). The delays caused are being compounded as growth on the rail network, and in particular rail freight, increases.</i></p>	21.6
	<p>Hauxton Park & Ride <i>Provision of an outer Park & Ride site on the A10 (south) at Hauxton with capacity for 1,000 spaces to provide additional Park & Ride capacity on the corridor and to intercept more car trips further out from Cambridge, thus freeing up road capacity closer to the city. Coupled with a busway between Hauxton and Trumpington (see scheme below) which would allow buses to bypass congestion around the M11 junction, this scheme would help to create a HQPT corridor in this part of the city.</i></p>	17.3

Programme area	Scheme	Est. cost (£m)
	<p>Hauxton-Trumpington busway</p> <p><i>A busway link between the new Park & Ride site at Hauxton and the existing Park & Ride site in Trumpington. The success of the new Park & Ride site would depend on how easily buses can get through the M11 junction and whether there was an advantage to a car driver to leaving the car at the new facility. This scheme would allow buses to bypass congestion around the M11 junction, forming part of a HQPT corridor in this part of the city.</i></p>	15.8
Cambridge Orbital	<p>Ring road bus priority – Addenbrooke's to Newmarket Road</p> <p><i>To provide a means of giving priority to buses travelling orbitally between the biomedical campus in the south of the city and the eastern side of the city, without being held up in congestion caused by general traffic. The scheme is likely to include online high quality bus priority on the ring road connecting Addenbrooke's to Newmarket Road by way of Fendon Road, Mowbray Road, Perne Road, Brook's Road and Coldham's Lane.</i></p>	18.7
	<p>Newmarket Road to Cambridge Science Park Station busway</p> <p><i>A busway linking Newmarket Road to the new Cambridge Science Park Station in order to provide a segregated means of buses travelling orbitally between the east of the city and the new Cambridge Science Park Station, without being held up in congestion caused by general traffic. The scheme will greatly improve accessibility to Cambridge Science Park Station, and the business/science parks in the area..</i></p>	64.7
	<p>Western Orbital</p> <p><i>To provide a segregated means for buses travelling orbitally between the university developments in the north west of the city and the biomedical campus to the south, without being held up in congestion caused by general traffic, and avoiding the congested city centre. This scheme will increase orbital capacity for public transport.</i></p>	23.0
A10 corridor north (Waterbeach)	<p>A10 dualling and junctions</p> <p><i>Additional capacity (on an alignment to be determined) for general traffic between the northernmost access to the new town and the Milton Interchange of the A10 with the A14. Congestion on the A10 is severe at peak times and often during the inter-peak as well. Whilst it is intended that a high proportion of trips generated by the new development will be undertaken by public transport, cycling and walking, there will still be some trips that will be made by car and that will use this stretch of road, placing more demand on it.</i></p>	63.4
	<p>A14/A10 Milton Interchange</p> <p><i>Additional capacity at the Milton Interchange for general traffic movements between the A10 and A14, and the A14 and A10. The scheme is integral to the delivery of the new development at Waterbeach which will help support the economic growth of the area by providing homes for people coming to work in the area.</i></p>	66.4

Programme area	Scheme	Est. cost (£m)
	<p>Waterbeach Park & Ride <i>A new Park & Ride site on A10 to intercept traffic from the north of Waterbeach, served by new busway link to Cambridge. Alignment to be determined. The scheme will intercept traffic from the north of Waterbeach and provide an opportunity for interchange onto public transport for the remainder of the journey. There is a significant volume of traffic from the north of Waterbeach that contributes to the congestion on the southern stretch of the A10. By providing an additional Park & Ride site further out, more general traffic could be intercepted before reaching the southern stretch of the road, thus helping with the capacity problem on the A10 and also freeing up capacity at the existing Milton Park & Ride.</i></p>	11.5
	<p>Waterbeach Barracks to North Cambridge busway <i>A busway link from a relocated Waterbeach station and new town centre to north Cambridge, including a fully segregated crossing of the A14 Trunk Road. The scheme aims to ensure that a bus journey between the centre of the new town, the relocated railway station and the outskirts of Cambridge is direct and unhindered by congestion along the A10 or the A10/A14 junction. The scheme is integral to the delivery of the new development at Waterbeach which will help support the economic growth of the area by providing homes for people coming to work in the area.</i></p>	46.1
	<p>Waterbeach new station <i>A relocated Waterbeach Station to serve the village and the new town, with platforms (capable of taking 12-carriage Thameslink trains or 10-carriage InterCity Express trains). A station already exists in the village of Waterbeach, however its current location is not ideal for encouraging residents of the new town to use the train. In addition, the rail industry is proposing significant service improvements along this line, including the introduction of 12-carriage trains. A relocated station would enable longer platforms to be provided to take advantage of the longer trains and increased capacity.</i></p>	33.1
Total		752.7

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Table 4: Deliverability of individual schemes

Scheme	Earliest start	Risk of delay to start	Construction period	Earliest opening
A10 dualling and junctions / A14/A10 Milton Interchange	2019	High	2-3 years	2021
A1307 bus priority / A1307 additional Park & Ride	2018	Medium	2 years	2020
A428 to M11 segregated bus route / A428 corridor Park & Ride	2017	High	2 years	2019
Airport Way Park & Ride	2019	Medium	1-2 years	2020
Bourn Airfield / Cambourne busway	2017	Medium	1-2 years	2018
Bourn Airfield / Cambourne cycle/pedestrian routes	2015	Low	Rolling programme	
Cambridge to Royston cycle link	2015	Low	1-3 years	2016
Chisholm Trail cycle links / Chisholm Trail bridge	2015	Medium	1-3 years	2016
City centre capacity improvements/ cross-city cycle improvements	2015	Low	Rolling programme	
Foxton level crossing and interchange	2016	Medium	1 year	2017
Hauxton Park & Ride	2019	Medium	1-2 years	2020
Hauxton – Trumpington busway	2019	Medium	1-2 years	2020
Histon Road bus priority	2017	Medium	1-2 years	2018
Madingley Road bus priority	2017	High	2 years	2019
Milton Road bus priority	2017	High	2 years	2019
Newmarket Road bus priority	2018	High	2-3 years	2020
Project Cambridge – Hills Road	2018	High	1 year	2019
Ring road bus priority Addenbrooke's to Newmarket Road / Newmarket Road to Cambridge Science Park Station busway	2019	High	2-3 years	2021
Saffron Walden & Haverhill corridor cycle / pedestrian routes	2015	Low	1-3 years	2016
Waterbeach cycle / pedestrian routes	2015	Low	Rolling programme	
Waterbeach new station	2018	High	1-2 years	2020
Waterbeach Park & Ride / Waterbeach to North Cambridge busway	2018	Medium	1-2 years	2020
Western orbital	2017	Medium	2 years	2019

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Agenda Item 8



Report To: Greater Cambridge City Deal Joint Assembly 12 January 2015

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

Funding of City Deal Non Project Costs

1. Purpose

To gain agreement, in principle, to the pooling of local authority resources in order to provide the necessary resources to support the delivery of the programme that cannot be capitalised through individual projects.

2. Recommendations

It is recommended that: -

- (a) The pooled resources of the three local authorities be used to fund those specific items set out in section 6 of this report for 2015/16;
- (b) A more detailed budget for 2015/16 be considered by the Joint Assembly at its next meeting;
- (c) The three local authorities be requested to make initial budgetary provisions within their respective medium term financial strategies in line with the contents of this report;
- (d) The Chief Finance Officer of the County Council be given delegated responsibility to incur any essential expenditure pending the agreement of a detailed budget appertaining to the functions contained in this report;
- (e) The Joint Committee is asked to consider additional opportunities for the use of pooled resources at a future meeting.

3. Reasons for Recommendations

The Joint Assembly are requested to agree the recommendations in order that the Executive Board can consider, and make funding available for, the necessary resources required to support the delivery of the agreed programme in 2015/16. Further consideration will be required on whether the programme will benefit from other non-programme investment at a later stage when the full range of opportunities have been identified and costed.

4. Background

The City Deal Submission included a proposal that resources of the three local authorities would be “pooled” in order to support the delivery of the Programme and to maximise the opportunities for delivering successful and sustainable communities. The submission did not set out a definitive schedule of the resources that would be pooled; the scale of the pooling that would take place, or the projects/activities that would be funded from the pool. In June 2014 the Shadow Board received an update on the issue and this paper is attached as an Appendix to this report.

5. Pooling Agreement

Since the aforementioned report was considered, the three local authorities have considered what should be the best starting position for pooling. It is believed that in the short term at least, and until a definitive programme of resource requirements has been agreed, that the pooling of resources should be restricted to New Homes Bonus (NHB) derived from the Greater Cambridge area. As NHB is generally used by the three local authorities to support the delivery of core services, and given the continued effect of austerity measures, the consequence of this commitment should not be understated.

This commitment must therefore be on the back of a set of activities that clearly require additional funding and that support the overall delivery of the programme and its associated outcomes.

Agreement has been reached between three local authorities that sums up to the following NHB gross receipts could be made available.

- 40% for the financial year 2015/16
- 50% for future financial years

Based on current projections of receipts that will be derived from this source the following sums could be made available for pooling purposes: -

Authority	2015/16 £000	2016/17 £000	2017/18 £000	2018/19 £000
Cambridge City Council	£1,986	£3,009	£3,085	£3,352
South Cambridgeshire District Council	£1,683	£2,727	£2,960	£3,219
Cambridgeshire County Council	£917	£1,434	£1,511	£1,643

The allocation of these sums will be subject to the ratification of the respective Council's during their forthcoming budget deliberations and approvals. The actual amount that can be pooled from NHB will need to be adjusted annually when the actual grant allocations are known.

6. Planned Expenditure

There will undoubtedly be a number of potential alternative uses for the resources created from pooling NHB resources. The decision to use this for City Deal purposes should only be undertaken where there is a clear set of outcomes that can be achieved from this resource that will benefit either the programme directly, or will improve the new communities that support this growth. Using this resource for City Deal activity is re-directing the funding from supporting other vital council services.

To date the following costs have been identified as non-project related activity that require funding to ensure the successful delivery of the City Deal Programme.

- Central coordination
- Strategic communications
- Economic assessments/triggers

The City Deal Agreement also contained a commitment to support the delivery of an extended Skills Programme for the Greater Cambridge area. No funding has yet been identified to support the delivery of this programme. The skills programme and funding options will be set out in a future report to both the Assembly and Executive Board.

7. Detailed Budget Provision

At this point the detailed resource requirements for the above functions have not been fully evaluated. A detailed set of budget proposals will be developed and set out in a future report. Until the point that the Board agree the budget required to support these activities it is requested that delegation be given to the County Council's Chief Finance Officer to agree to any necessary expenditure should this be essential to avoid any delays in the commencement of the programme.

8. Pooling Administration

At this point in the evolution of the use of pooled resources there seems little benefit in the physical transfer of resources ahead of the expenditure being incurred. The level of expenditure that will be incurred in the short term is limited and therefore the County Council as the 'Accountable Body' can cover the cash flow implications of this approach.

The Assembly and the Joint Committee will receive regular financial monitoring statements, which will also be used as the mechanism for recovering contributions from the respective local authorities.

9. Considerations

Only activities that are directly related to, and contribute to the delivery of, a project can be treated as capital costs and therefore charged directly to individual projects that are funded from the City deal capital programme. Whilst the maximum flexibility will be maintained in this interpretation there is a boundary that cannot be crossed. In addition to the direct project costs there will always be cross-programme costs that need to be resourced in order to ensure the smooth and effective running of the

programme. It will always be an objective to keep this to a minimum but some investment is inevitable to ensure successful delivery.

Other costs are already being, and will continue to be, absorbed by the three local authorities as the cost of governance is being supported by those organisations. The respective local authorities have subsumed the costs associated with the following activities: -

- Democratic Governance
- Legal and Audit Services
- Financial Services
- Programme Leadership

Given the current financial climate and the cuts to services that all the local authorities are facing, the allocation of resources to any new pooling arrangement should not be taken lightly. Therefore the expected outcomes should be clear to all. To date a number of non-project programme activities have been identified for which no specific funding exists but that are paramount to successful delivery of the programme. These will need to be resourced and without any other funding stream available to the Board the use of the pooled resource is proposed as the logical solution.

The key consideration for the Assembly will however be the next stage of resource pooling. A broader discussion over potential further utilisation to achieve the maximum outcomes will need to be undertaken over the coming months. Any such deliberations will need to be undertaken against the background of the public sector financial landscape.

10. Options

There are very few other options for the funding the non-programme costs of this project. These can be summarised as: -

- An equal contribution from all partners
- Some form of proportionate contribution (no potential allocation methodologies have been considered at this point)
- As above excluding the University or LEP
- Use of the New Homes Bonus generated within the Greater Cambridge area.

This report is recommending the last of these options on the basis that the City Deal will facilitate housing developments leading to the generation of additional NHB. A key risk however is that this source of funding will be under scrutiny as part of the Comprehensive Spending Review next year and this source of funding may need to be re-visited should this result in the integration of NHB into the main grant distribution mechanism.

11. Implications

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

The financial implications are set out in body of the report.

Legal

The agreement of a funding methodology does not set a legally binding agreement. This can therefore be reviewed and adjusted at any point by agreement of the Joint Committee.

Staffing

There will be some staffing implications in relation to the specific proposals set out in this paper. This relates to the recruitment of staffing to support the central co-ordination and communication functions.

Risk Management

There is a risk that the New Homes Bonus will not exist after the 2015 Spending Review. Furthermore if NHB does continue in its existing form the pressures arising from continued austerity measures may necessitate the three local authorities to review the level of funding that is allocated to this activity.

Equality and Diversity

None

Climate Change

None

Consultation responses

The three local authorities that will be contributing NHB should the recommendations set out in this report have been fully engaged in the drafting of this report

12. Background Papers

None

Report Author: Chris Malyon – Chief Financial Officer, Cambridgeshire County Council. Telephone: 01223 699796

GREATER CAMBRIDGE CITY DEAL

Use of pooled funding for infrastructure development

Introduction

The City Deal agreement represents a significant opportunity for the Greater Cambridge partners to provide a sustainable transport infrastructure to support the next phase of the Cambridge phenomenon. The delivery of both commercial and residential development to the scale set out in the Greater Cambridge City Deal application will require much more than just improved transport infrastructure in order to deliver sustainable and socially acceptable communities that provide a good quality of life for our residents.

Whilst the ability of local authorities to invest in high quality community infrastructure is constrained, due to the pressures on public finances, it is important that the limited resources that are available are used to the maximum effect. The County Council and the two district councils have worked collaboratively for many years in order to maximise the contributions from developers in order to deliver robust community infrastructure within new communities.

The pooling of some local funding is therefore the natural next step along the pathway to more integrated planning and delivery of new or developing communities. This was the logic for the inclusion within our collective City Deal submission to the Government that we would:

-

“

- Pool local resources to form an infrastructure investment fund
- Invest in the schemes that deliver the greatest economic impact in line with the assurance framework”

Whilst the extent of this pooling was not defined, and no definitive commitment was provided, we did share with the Cabinet Office and Treasury the anticipated level of local resources that would be used to support the delivery of community infrastructure. Resources and priorities will obviously change during the period of the City Deal and therefore this could not be seen as a definitive commitment on the part of the partner organisations but was a clear statement of intent.

This paper sets out a brief overview of a potential framework which if agreed will be used as a basis for a more detailed set of proposals that will be developed for the consideration of one the early meetings of the Joint Committee.

Rationale for pooling funding

The rationale for working collaboratively is quite clear. Both the planning authorities and the County Council already does so in negotiating Section 106 contributions. This process is a fine balance to ensure that contributions are maximised without making the development unaffordable. The pooling of resources is therefore the next step in collaborative working between the partners. This should facilitate even greater success in our objective to deliver a good quality of life for our new communities.

Furthermore if a Combined Authority were set up in future, this would take responsibility for certain statutory functions currently sitting with partner authorities. The expected arrangement would be for the Combined Authority to take over responsibilities for transport. Pooling of resources is therefore a natural precursor to the more formalised approach that will need to be adopted for a combined Authority.

In addition, it is likely that a Combined Authority would also receive certain responsibilities that would be exercised concurrently with partner authorities (under an agreed protocol).

One reason for pooling funding would be to recognise the expected future shift of responsibilities and clarify as soon as possible the level of funding that the Combined Authority would have to exercise its responsibilities.

More broadly, the use of pooled funding would recognise the potential benefits to the community of working in partnership to deliver improvements.

What funding should be pooled?

The underlying principle should be that the Joint Committee seeks to maximise the level of pooling that is undertaken. There are, however, a number of funding streams where there would be little, or no, benefit in pooling as the nature of the funding is prescribed to a specific activity and therefore leaves no discretion for its use.

Such funding streams should nevertheless be visible to the Joint Committee and it is therefore recommended that these sources of finance and associated programmes be reported to the Joint Committee to ensure that it has visibility of the complete infrastructure programme associated with developing new communities.

The Chief Finance Officers of the respective Councils have produced a schedule of the potential funding levels that would be generated over the life of the City Deal. This has not been included within this report at this stage as the focus should be on the principles of pooling rather than the specifics.

The funding sources can be categorised as follows: -

- Resources that should be pooled
- Those where the Joint Committee is a 'super consultee'
- Those that the Joint Committee should have sight of

The funding sources have been categorised as follows: -

Pooled Resources

New Homes Bonus (NHB)

Section 106

Community Infrastructure Levy

Any other funding committed to the City Deal through the agreement with government

Super Consultee Resources

Local Transport Plan Grant

Local Transport Body Grant

Visible Funding

Other Specific transport grants (Schools)

Basic Need (Schools)

Capital Maintenance Grant (Schools)

Devolved Formula Grant (Schools)
Housing Revenue Account

For the purposes of clarity any pooling of County Council resources would be restricted to those derived from within the Greater Cambridge City Deal area.

New Homes Bonus (NHB)

NHB is calculated based on the estimated council tax due on housing completions each year – this is paid for a period of 6 years. Of the total calculated NHB 80% would go to the District and 20% to the County Council.

The pooling calculations would show the total NHB generated each year, but the sum available would be reduced by agreed commitments in respect of the City and South Cambridgeshire. The NHB remaining after these commitments, together with the NHB attributable to the County, would be available as pooled funding.

There is some significant doubt over the future of this funding stream. Many councils have used it to fund core services and therefore have been future projections within their council revenue medium term financial plans. Each council's approach will differ based on the Chief Finance Officers (CFO's) perception of the ongoing nature of the funding stream.

It is proposed that, whilst this funding stream is retained, any new NHB funding that is derived from new completions from 1st April 2015 from properties within the Greater Cambridge area the funding will be pooled to support the delivery of community infrastructure by agreement of the Joint Committee. The original discussions with the City Council did not go as far as this and there was a limited commitment to this pooling concept. Whilst the partner organisations can agree a hybrid to full pooling of this resource it is important that this is a transparent decision. If this was the case then it is important that South Cambridgeshire and the County have the opportunity to also restrict their pooling commitments or to continue with full pooling irrespective of this if they so wish.

Section 106

Section 106 funds are normally negotiated where the size or nature of developments requires specific infrastructure changes. The need for such specific infrastructure means that s106 contributions will tend to be considerably higher than CIL would have been for a development.

The pooling calculations will show the total s106 generated each year. However, the sum available for pooling will be reduced by amounts earmarked for specific types of infrastructure that remain the responsibility of partner authorities. As noted above it is currently assumed that this will include shared responsibilities, e.g. funding for new schools would not be pooled.

Any funding earmarked for transport infrastructure would be treated as pooled funding. In addition, s106 funding not earmarked for specific infrastructure would be pooled.

Funding should be pooled where it would be expected to support responsibilities that would transfer to a future Combined Authority.

If the Combined Authority were given shared responsibility for economic development and other functions there could be a case for pooling funding for these as well. This issue would be considered further when drawing up a protocol on how shared responsibilities would be exercised. At this stage, though, it is assumed that funding will not be pooled in respect of

such functions. Thus, for instance, basic need and HRA funding would remain under the control of individual partner authorities.

Community Infrastructure Levy (CIL)

CIL is generated on extra floor area produced by housing and certain commercial developments. There is no size restriction on this, i.e. CIL can be calculated and collected on a development of a single house.

An agreed proportion of CIL would be earmarked for use on local priorities. The remainder would be available as pooled funding.

Specific Transport Grants

Pooled funding will include all of the grant allocated under the City Deal. In addition, any other specific grants relating to transport in the Greater Cambridge area will be pooled. The pooling calculations will show the total specific grants allocated to the County Council and use agreed methodology to split this between amounts relevant to Greater Cambridge and amounts in respect of the remainder of the county.

Other Funding Committed To The City Deal

There may be other funding provided by partners to support the City Deal – either to honour the agreement with the government or by local agreement. Any such funding will be pooled.

Over the period of the City Deal it is likely that there will be significant changes made to the way funding streams work. This protocol on the use of pooled funding would need to be reviewed by the partner authorities to agree how best to take account of any such changes.

Application of pooled funding to infrastructure spend

Infrastructure expenditure during the City Deal can be split into the categories shown in the table below. Assumptions for each category about the potential use of pooled funding are included in the table.

Type of expenditure	Assumed use of pooled funding
Projects funded by City Deal grant	Pooled funding used.
Projects falling within the responsibilities expected to transfer to the future Combined Authority, but not funded by City Deal grant.	Pooled funding used.
Projects falling within responsibilities shared by the Combined Authority and partner authorities.	Pooling only used if that is agreed in the protocol drawn up on how best to exercise shared responsibilities.
Projects falling outside the responsibilities of the future Combined Authority.	No pooled funding.

Even for projects that would not normally be subject to pooling according to the above table partners could specifically agree to contribute pooled funding (for instance where it was felt that the project was supporting the wider aims of the City Deal).

Process for determining the use of pooled funding

The table below briefly outlines an annual process for decisions on the use of pooled funding. This would initially be agreed by the Joint Committee but ultimately be carried out through the Combined Authority governance structures.

Frequency	Action
At least annually	Update information on costs and income for the current and future years: <ul style="list-style-type: none"> ▪ Review the amount of pooled funding available. ▪ Review costs of infrastructure supported by City Deal grant ▪ Review costs of other infrastructure that would be the responsibility of the Combined Authority. ▪ Consider any applications by partners for pooled funding to be used to support other infrastructure developments.
At least 6-monthly	Allocate pooled funding: <ul style="list-style-type: none"> ▪ For the current year. ▪ Agree a timetable to pass funding on to the Combined Authority. ▪ Indicative allocations for future years.
At least quarterly	Monitor progress: <ul style="list-style-type: none"> ▪ Quarterly update on expenditure.

Managing cash flow for pooled funding

There will be significant uncertainties about when some funding will be received – this will particularly be the case for s106. Currently these cash flow issues are managed within individual partner authorities and it is proposed that this should continue to be the case, as the Joint Committee will not have the power to borrow.

The above annual process therefore refers to agreeing a timetable for payments – this schedule would be used rather than paying funding over at the point it is received.

Dispute resolution

Where partners are unable to agree on how to apply this protocol on pooled funding the dispute shall be referred to ... (Head of Paid Service?) to negotiate to resolve the matter in good faith.

Recommendations

It is recommended that: -

- **The principle of pooling of funding streams derived from infrastructure developments be agreed;**
- **This pooling should cover**
 - **New Homes Bonus**
 - **Section 106 receipts**
 - **Community Infrastructure Receipts**
 - **City Deal Grant Funding**
- **The Joint Committee request that it become a super consultee in the utilisation of other funding sources such as LTP and LTB grants**
- **The Joint Committee retain an oversight of the utilisation of all community infrastructure funding streams**
- **A more detailed paper setting out the framework of the pooling arrangements is considered by an early meeting of the Joint Committee once established.**

**Chris Malyon
Chief Finance Officer
Cambridgeshire County Council
June 2014**

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