MOTT MACDONALD

Cambridge South East Transport Phase 2

Outline Business Case
Appendix H: Wider Economic Impacts Report

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1 Context

This section provides a brief overview of the development context in Cambridgeshire, setting out the narrative around current and future growth in the area. It is within the context of this growth that the assessment of Wider Economic Benefits (WEBs) has been undertaken.

1.1 The Economic Context of Cambridgeshire

Cambridge is one of the fastest growing cities in the UK and Europe with a world-class reputation for education, research and knowledge-based industries. The city and surrounding region are at the forefront of high technology, leading the way in the software and bioscience industries. Cambridge Biomedical Campus (CBC), to the south of central Cambridge is one of the largest biomedical research clusters in the world and is at the heart of much of the growth experienced in the area over recent years. Maintaining and growing the success of Cambridge is not only important for residents, employers and academia, it is also critical to the UK's long-term economic plan, which seeks to improve productivity and international competitiveness.

The vision for Cambridge is set out in the 2018 Cambridge Local Plan, presenting policies and proposals for future development and spatial planning requirements in Cambridge to 2031. Developed with South Cambridgeshire District Council, the plan considers the development and spatial planning requirements for Cambridge and South Cambridgeshire, with a focus on maintaining and enhancing the success of the area. Within the plan, growth is identified to take place across Cambridge North West, Cambridge Southern Fringe, Cambourne, Bourn Airfield and employment hubs at West Cambridge and the Cambridge Biomedical Campus, with 33,500 new homes and 44,000 new jobs anticipated by the year 2031.

Greater Cambridge is renowned for being a world-leading centre for research, innovation and technology. Over the past 50 years there has been an explosion of globally significant companies and innovations across bioscience, medicine and technology. The 'Cambridge Phenomenon', is a term that describes the thriving hi-tech and biotech industry, which has developed since the 1960s. The GCP's current vision is to:

> ***"Unleash a second wave of the 'Cambridge Phenomenon', with the aim of 'securing sustainable economic growth and quality of life for the people of Cambridge and South Cambridgeshire'"***.

Rapid business creation and growth in South Cambridgeshire, particularly around the A1307 corridor, as part of the 'Cambridge Phenomenon' has created jobs and prosperity in Greater Cambridge. The success of Greater Cambridge brings jobs and opportunities, not only for the City Region, but for the whole region and helps the UK economy to compete and attract high calibre knowledge-based individuals to fill gaps and increase economic growth. The city embodies the key foundations of the National Industrial Strategy[1] for the UK to become the world's most innovative economy.

[1] Industrial Strategy: Building a Britain fit for the future, HM Government, November 2017

The success experienced over recent years is largely due to:[2]

- A world class university that draws talent from across the globe, fostering innovation and encouraging new businesses;
- The area's scale and connectedness allow overlapping networks to develop and facilitates a culture of co-operation and cross-fertilisation between entrepreneurs and academics, and;
- Retaining a strong heritage and sense of place, thereby competing with other world cities as a good place for business leaders and their families to live, not just a good place to do business.

This entrepreneurial environment and concentration of people focused on science and engineering is attracting international businesses to invest in the area. More than 25 of the world's largest corporations have established operations in Cambridge, including Amazon, Apple, HP, Illumina, Microsoft, Sanofi, Siemens and Qualcomm. AstraZeneca has chosen Cambridge for its global research headquarters for 2,000 staff. Cambridge has transformed from a city characterised by a high rate of start-ups to a city which major companies class worthy of housing headquarters.

1.2 Summary

Cambridgeshire has seen sustained growth across a number of high value economic sectors that makes the area one of the UK's growth hubs. Factors such as Cambridge University and the historic setting attract many highly skilled workers and the high value businesses that require these skills to the city and the surrounding area. The high level of demand in Cambridge for housing and commercial space means that the development of sites is profitable for the private sector and accordingly, many development sites continued to be delivered across Cambridgeshire to support the continued growth of the area. The historic nature of the city and high demand for the further development of land to accommodate additional growth has resulted in the city becoming increasingly constrained, resulting in the need to expand outside of Cambridge City Centre. The expansion of Addenbrooke's Hospital and the neighbouring Cambridge Biomedical Campus is evidence of this, as are the proposals for new developments at Bourn Airfield and Cambourne to the west of Cambridge City Centre.

It is in the context of this sustained growth that the CSET scheme is being delivered. CSET will provide new High Quality Public Transport infrastructure and services to enhance public transport connections between South Cambridgeshire and Cambridge City Centre. This can support the greater use of public transport in the area contributing to reduced congestion and the long-term sustainability of developments across South Cambridgeshire.

[2] City Deal, Greater Cambridge City Deal Document, 2014

2 Assessment of the Wider Economic Benefits of the Preferred Option

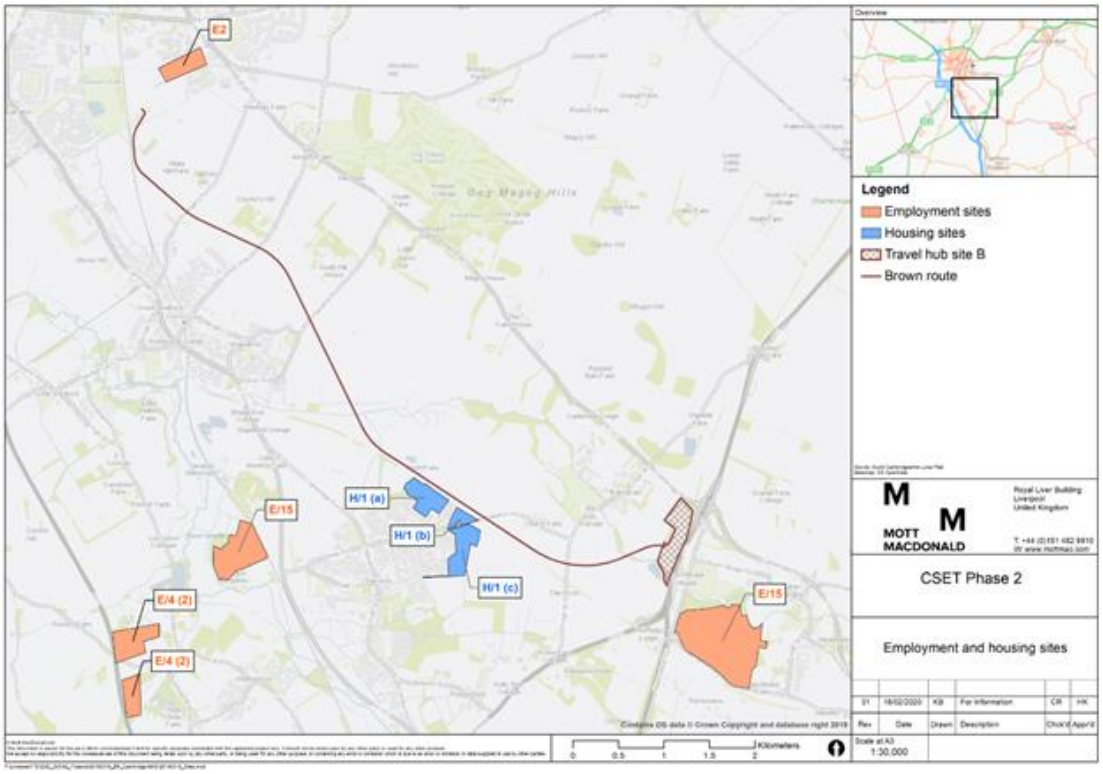
The multicriteria assessment of the shortlist of options for CSET found that the Brown option produced the greatest benefits against the range of appraisal criteria. It was noted during this process that all shortlisted options could support wider development in the area served by the scheme to an equal extent. It was not possible to differentiate between the options in terms of their potential to support the development of commercial and residential sites in the area around the A1307. This meant that the impact of wider economic benefits on the appraisal of the shortlist of options was limited and that the selection of the Brown option was made based on the balance of other appraisal metrics.

The potential for the preferred option to support the development of commercial and residential land in close proximity to the route has been assessed in line with WebTAG Unit A2.3. The assessment found that no sites were directly dependent on the scheme. This is partially as a result of the development context within Cambridge, where demand for commercial and residential sites in areas close to Cambridge city centre and key sites such as Granta Park is high, leading to many sites coming forward without public sector intervention.

As no sites are deemed to be dependent, it is not possible to attribute the development of any site, whether commercial or residential, to the project. On this basis, there are no quantifiable wider economic benefits from land-use change that can be directly attributed to the delivery of the project. Notwithstanding the above, in terms of establishing the strategic context to the scheme, it is worthwhile to demonstrate the scale of future development sites in the South East Cambridgeshire area in terms of jobs, Gross Value Added (GVA) and land value uplift.

The preferred option for this scheme, the Brown route from Travel Hub Site B, is shown in Figure 2.1 below. The area covered by the scheme is located within the South Cambridgeshire District Council area. The 2018 South Cambridgeshire Local Plan sets out the planning priorities and strategic site allocations for the district up to 2031. This plan allocates three housing sites in close proximity to the route as well as multiple employment sites.

Figure 2.1: Development Sites and the Preferred Option



Source: South Cambridgeshire District Council

The sites allocated in this area are set out in Table 2.1 and Table 2.2 below.

Table 2.1: Employment Sites

Site Name	Site Size (ha)	Proposed Use
E/4 (2)	1.9	B1 - office
E/15	N/A	No specific allocation

Source: South Cambridgeshire Local Plan, 2018

Note that of the employment sites identified in this area, only site E/4 (2) is a specific allocation. Sites identified under policy E/15 are existing employment areas at which development will be permitted by the council, but which have no specific allocation within the local plan. Sites included under policy E/15 include Granta Park to the south west and the Cambridge Biomedical Campus to the north east of this area. On this basis, only site E/4 (2) has been included in the land-use change modelling.

Table 2.2: Housing Sites

Site Name	Site Size (ha)	Current Land Use
H/1 (a)	10.70	Industrial
H/1 (b)	3.64	Greenfield
H/1 (c)	11.64	Greenfield

Source: South Cambridgeshire Local Plan, 2018

The housing sites identified in this area all fall under policy H/1, for specific, strategic housing allocations. Two of the three sites under this policy in the proximity of the preferred route option are currently greenfield sites, the third site is currently Dales Manor Business Park.

3 Methodology

3.1 TEAM Methodology

The economic benefits of the commercial developments in terms of gross jobs and GVA have been assessed using Mott MacDonald's Transparent Economic Assessment Model (TEAM). TEAM assesses the core economic benefits of the associated land-use changes relating to jobs and GVA. The model uses Office of National Statistics (ONS) datasets alongside bespoke local area analysis, in this case for the South Cambridgeshire District Council to inform specific assumptions.

TEAM has been applied to only quantify the gross economic impact of the development of site E/4 (2) because, as discussed above, no sites are considered to be dependent to this scheme. The potential economic benefits of the development site are calculated through the following steps:

- Inputting of key site details into TEAM including the development footprints and land uses.
- Calculation of economic impacts through feeding the proposed uses by size through TEAM to calculate the gross direct effects of the development site in terms of employment and economic output (measured by GVA) once fully developed. These are calculated using land use assumptions relating to development footprints, land uses, occupancy rates and employment densities to convert land use to jobs. The GVA is then calculated using GVA per worker aligned to the jobs created.

3.1.1 Assumptions Used

The assumptions used in this appraisal are set out in Table 3.1.

Table 3.1: Assumptions Used

Assumption	Justification
GVA per worker (2017 prices adjusted to 2010 prices) – £45,537.	GVA figures have been calculated based on applying GVA per worker data across the whole economy at a regional level, which is East of England, the latest data is from 2017, which puts GVA per worker at £51,303. This has been adjusted to 2010 prices using the HMT GDP deflators. This produces a value of £45,537 of GVA per FTE.
Plot ratio – 40%	As the site information was provided in hectares, a standard assumption of 40% was applied to estimate the proportion of the site on which usable employment floorspace will be built.
Occupancy rate – 75%	An occupancy rate of 75% accounts for the possibility that the site will not be occupied to full capacity. This provides a conservative estimate of the likely wider economic benefits of the scheme as the actual sites could be more fully occupied if the scheme is well received by investors, developers and potential occupiers.
Employment density – B1 average – 12m^2/FTE	The site was identified for use as B1 office. As the HCA (now Homes England) Employment Density Guide (2015) provides a range of B1 employment densities, an average employment density of 12m² of Net Internal Area (NIA)/Full Time Equivalent (FTE) job was taken. - This is the assumption that one full-time equivalent (FTE) job is generated for every 12m² of B1 employment space in NIA. This conservative assumption has been used to demonstrate the economic impact of a range of potential B1 office uses, rather than focussing on only one B1 use, which could significantly impact the reliability of the assessment if incorrect. These assumptions are based on the HCA Employment Density Guide 2015.

Source: Mott MacDonald

3.2 Results

This analysis found that Site E/4 (2) could accommodate approximately 404 gross jobs, producing around £18m of gross GVA per annum, at 2010 prices.

Table 3.2: TEAM results

Site	Gross Jobs	Gross GVA Per Annum, £m (2010 prices)
E/4 (2)	404	£18m

Source: Mott MacDonald

As stated above, this impact is not attributable to the scheme, but serves to demonstrate the value of supporting sites in this area.

3.3 Land Value Impact of Residential Land

The value of the residential allocations E/1 have been assessed at a gross level using a Land Value Uplift (LVU) methodology, in line with guidance from the Ministry of Housing, Communities and Local Government (MHCLG)[3]. The assessment of land value uplift of the residential land allocation has been based on VOA benchmark data, demonstrating the impact of the land changing use from its current use (agricultural and industrial land) to its proposed use (residential). The land use values are provided by MHCLG and have been adjusted from their 2017 price base to the 2010 prices required by WebTAG to be consistent with the wider appraisal. The conversion of land values is shown below.

Table 3.3: Adjusted Land Values

Metric Category	Metric	Value	Price Year	Source
Land values	Industrial (brownfield) Cambridge per ha	£875,000	2017	MHCLG, Land value estimates for policy appraisal 2017, https://www.gov.uk/government/publications/land-value-estimates-for-policy-appraisal-2017
	Agricultural (greenfield) land value Greater Cambridge and Peterborough LEP per ha	£21,000	2017	MHCLG, Land value estimates for policy appraisal 2017, https://www.gov.uk/government/publications/land-value-estimates-for-policy-appraisal-2017
	Residential South Cambridgeshire per ha	£5,300,000	2017	MHCLG, Land value estimates for policy appraisal 2017, https://www.gov.uk/government/publications/land-value-estimates-for-policy-appraisal-2017
Deflator to 2010	GDP deflator - to adjust 2017 values to 2010	88.76	Indexed to 2017/18	ONS, GDP Deflators, Spring statement, 2018
Deflated land values (2010)	Industrial (brownfield land) LCR 2010 prices per ha	£776,644	Adjusted to 2010	Mott MacDonald calculation
	Agricultural (greenfield) land value GCP LEP 2010	£18,639	Adjusted to 2010	Mott MacDonald calculation
	Residential South Cambridgeshire /per ha 2010 prices	£4,704,244	Adjusted to 2010	Mott MacDonald calculation

Source: Mott MacDonald/MHCLG

Applying these values at a gross level to the sites produces the following output.

[3] See MHCLG (formerly DCLG) Appraisal Guide, 2014

Table 3.4: Gross Land Value Uplift of Residential Sites

Site	H/1 (a)	H/1 (b)	H/1 (c)
Current use	Industrial	Agricultural	Agricultural
Size (ha)	10.7	3.64	11.64
current value per ha (2010 prices)	£776,644	£18,639	£18,639
Current land value (2010 Prices)	£8,310,091	£67,848	£216,963
Future use	Residential	Residential	Residential
Residential land value (2010 prices) Per ha	£4,704,244	£4,704,244	£4,704,244
Future value of site (residential) (2010 prices)	£50,335,406	£17,123,447	£54,757,395
Uplift in land value (gross)	£42,025,315	£17,055,599	£54,540,432

Source: Mott MacDonald

The analysis found that the total gross land value uplift associated with the change of use of the three residential sites in this area is approximately £113m.

4 Summary of Findings and Conclusions

The development of the three residential sites and single employment site identified in the South Cambridgeshire Local Plan (2018) could produce:

- Approximately 404 gross jobs and £18m of gross GVA per annum; and
- A single uplift in land values of approximately £113m.

Although the sites identified in the area around the CSET scheme were assessed as not being dependent on the scheme, the scheme can still support the wider development of South Cambridgeshire. CSET will provide additional transport capacity that will enable people to access key sites at either end of the CSET route. With the Cambridge Biomedical Campus and the city centre at the northern end of the route and Granta Park at the southern end, CSET will provide sustainable public transport access between these two sites, as well to intermediate sites along the route, including Sawston and Babraham.

As Section 1 sets out, Cambridge and its surrounding area has recorded long running economic growth across a range of sectors. This growth has seen demand for development sites increase, while the supply remains constrained. The need to expand outside of the conventional city centre has been made clear by developments across the area, including Bourn Airfield, Granta Park and Trumpington.

As sites across Cambridgeshire continue to come forward and key strategic development sites, such as E/2 (Cambridge Biomedical Campus) and E/15 (Granta Park) shown in Figure 2.1 grow in size, further strain will be placed on local transport networks. The continued growth of these sites will increase the number of people regularly accessing these sites, adding additional cars to the road network, increasing congestion and pollution while increasing journey times and costs to travellers. CSET, in providing additional public transport capacity in the area, can support the long run growth of key sites such as E/2 and E/15 by providing high quality public transport options that enable a larger number of people to access the site without overburdening the road network. In this way, CSET will support continued economic growth across Cambridgeshire, by providing a sustainable public transport network to mitigate the negative impact future growth in car use can have on the local network.

Plans under the South Cambridgeshire Local Plan Policy E/2 to continue to expand the Cambridge Biomedical Campus are likely to result in additional demand for car parking in the area as the number of employees at the site increases. Without alternative transport options such as CSET being in place, the demand for car parking space is likely to inhibit future growth, as the transport network becomes congested by the over-dependence on private vehicle use to access sites in this area.

Although no individual sites are considered to be directly dependent on the CSET scheme in order to come forward, the scheme can support the continued growth of the area by providing a sustainable public transport alternative to private car use that can be used to access key employment and residential sites along the route. The delivery of public transport enhancements such as CSET can provide long term benefits in enabling future growth across South Cambridgeshire and Cambridge City Centre. Policy E/15 of the South Cambridgeshire Local Plan sets out proposals to develop strategic sites across the district, including in Sawston, Granta Park, and Duxford[4]. The development of sites across this area is likely to further increase demand on the road network along the A1307 and nearby roads. The greater use of

[4] South Cambridgeshire District Council, Local Plan, 2018

the road network in this area is likely to increase congestion and journey times, resulting in greater transport costs for users and greater levels pollution in the local area. This could lead to further development being inhibited by the need to address capacity issues on the road network which is unlikely to be funded by private sector developers. Accordingly, CSET provides public transport access to key sites across the area of South Cambridgeshire, enabling the growth of sites in this area to be supported by this access and helping to prevent this growth overburdening the local road network. Although these sites are not dependent on CSET to come forward, the future growth of these sites can be directly supported by this scheme in the future through the sustainable public transport access provided to a number of key sites by this scheme.