

Connecting Cambridgeshire Plan to 2020

To: **Economy and Environment Committee**

Meeting Date: **9th March 2017**

From: **Graham Hughes, Executive Director Economy, Transport & Environment**

Electoral division(s): **All**

Key decision: **No**

Purpose: To outline the Connecting Cambridgeshire programme progress to date and proposals for a follow on phase to 2020 with updated targets.

Recommendation Economy and Environment Committee are recommended to:

1) Approve the Cambridgeshire digital connectivity blueprint 2017-2020 with associated targets for broadband access and mobile coverage across Cambridgeshire and Peterborough. Including:

- a) Broadband - Phase 4 rollout to enable >99% superfast broadband coverage for homes and businesses across Cambridgeshire and Peterborough by 2020, subject to approval of the proposed additional funding mechanism to provide up to £7.3m by the Council's General Purposes Committee.
- b) Mobile - Improved mobile voice and data coverage to match or exceed national targets.
- c) Public Access Wi-Fi - Increased public access Wi-Fi through a joint investment project with village halls and community assets boards.
- d) Future Connectivity - Endorsement and support for the ambition for Cambridgeshire to be identified as a 5G test bed and pilot area as part of the Governments forward looking 5G strategy and rollout plans.

2) Delegate to the Executive Director for Economy, Transport and Environment in consultation with the Chair and vice chair of the Economy and Environment Committee:

- a) The preparation, bid submission and, if successful, subsequent contract agreement for up to £2.5m European Regional Development Funds (ERDF) in support of Phase 4 Superfast Broadband rollout.
- b) The formulation of a procurement strategy which will secure the optimum coverage of Superfast broadband to remaining areas of the county and authority to proceed with any necessary procurement process related to Phase 4 Superfast Broadband rollout, up to and including identification of preferred bidder(s) for the contract or contracts.
- c) Following on from the procurement activities, authority to enter into one or more contracts to improve the digital connectivity infrastructure for Cambridgeshire and Peterborough.

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1. BACKGROUND

1.1 Digital Connectivity Infrastructure

Over the last decade there has been an exponential growth of digital technology, which now underpins almost all aspects of modern living in every sphere across work, travel, leisure and health; and increasingly it impacts on the economic strength, sustainability and quality of life of all parts of the UK and beyond. As a consequence Internet access is now widely viewed as “the 4th utility”.

Between 2003-2013 the digital economy grew 2.5 times faster than the rest of the UK economy and technology based businesses in the East of England have grown by 20% since 2009. In the Cambridge area alone more than 60,000 people are employed by over 4,000 knowledge intensive businesses with a combined turnover exceeding £11bn.

Having a world class digital connectivity infrastructure is an essential component which supports and underpins key economic growth projects for the whole of Cambridgeshire, including the City Deal Programme and Wisbech 2020 amongst others. The impact of digital connectivity on the economy, quality of life, education and skills as well as health and well-being are outlined in the infographic “Digital Infrastructure Blueprint” at Appendix One.

1.2 Connecting Cambridgeshire Programme

In parallel with an increasing focus by national government, the County Council first recognised the importance of digital connectivity to the future success of the county in 2011.

The programme was initially focused solely on fixed broadband, but given the increasing reliance on all forms of connectivity and the interdependence between them, this was quickly broadened to include mobile and public access Wi-fi too, with a remit to secure a 21st century digital infrastructure across Cambridgeshire to:

- Drive forward economic growth
- Help build and sustain thriving, connected communities across the county
- Facilitate streamlined public service delivery.

1.3 Summary of progress to date

The programme includes a number of work streams focusing on different aspects of digital connectivity:

1.3.1 Superfast Broadband Rollout for “fixed” coverage

- Phase One - completed end 2015 (from ~ 60% to 93% Superfast broadband coverage).
- Phase Two - underway (target 95% by end 2017).
- Phase Three - currently being planned (target 97% by end 2018).

BT is delivering Phases 1-3 via a gap funded contract which was signed in 2013 to rollout out fibre based broadband infrastructure to homes and businesses in the county which would otherwise not be served by commercial provision.

1.3.2 Mobile coverage

3G and 4G mobile coverage in Cambridgeshire is poor which particularly impacts on Cambridgeshire businesses. The Central Government MIP (Mobile Infrastructure Programme) has now closed and did not achieve significant increase in connectivity – just one new mobile mast was deployed in Cambridgeshire as part of the programme.

1.3.3 Public Access Wi-fi

Public access Wi-Fi across the county has been enhanced via grant funding from government, with over 100 “CambWi-Fi” hotspots delivered in public buildings, sheltered housing & community centres, libraries and Park and Ride sites across the county to date. Wi-fi provision is supplemented in Cambridge by around 25 Cambridge University provided Wi-fi hotspots in open spaces in the city.

1.3.4 Future Digital Connectivity – Ultrafast and 5G

Despite progress made so far, businesses in particular need the digital connectivity infrastructure in Cambridgeshire to keep pace with increasing requirements for higher speed bandwidth. It is recognised that superfast speeds (24mbps+) will not be sufficient in the near future and that faster speeds (including “ultrafast” at 100mbps and up) will be essential to sustain long term economic strength. Trials and work to date has included:

- “Small cell” pilots with local tech SMEs (small and medium enterprises)
- Collaboration with Cambridge University enabling access to local authority assets and ducts, with University network enabling access to dark fibre and providing public access Wi-Fi.
- Narrow trenching and G-fast trials with speeds of up to 300mbps undertaken in several locations in Cambridgeshire.
- Smart Cambridge programme improving access to transport and air quality data via the development of a leading edge intelligent city management platform in collaboration with Cambridge University and the Cambridge tech community. Includes an Internet of Things capable long range low power network and sensor deployment.

2. **MAIN ISSUES**

- 2.1 Although the current anticipated Superfast broadband coverage to 97% premises in Cambridgeshire represents a significant achievement, as demand for connectivity continues to increase there is on-going pressure from businesses and communities in Cambridgeshire to continue to improve all aspects of the digital infrastructure.

- 2.2 The targets for the Connecting Cambridgeshire programme were originally set in 2011, with an objective of reaching “over 90%” superfast coverage. This is an opportune time to refresh these targets and it is proposed that an ambitious new blueprint is adopted which will incorporate targets to deliver world class connectivity and cement Cambridgeshire’s position as a leading digital county. The proposed targets are set out in the table below and outlined in the accompanying “Blueprint for 21st Century Infrastructure” which is included as Appendix One.

Connectivity Infrastructure	Target by 2020
Superfast broadband coverage	>99%
Mobile 3G and 4G coverage for voice and data	>=National coverage targets
Public Access Wi-fi	+50 locations
Future Digital (5G)	Test-bed location

- 2.3 These targets will be delivered in four discrete work streams within the Connecting Cambridgeshire programme:

a) Superfast Broadband Work Stream Phase 4 rollout

- It is anticipated that this will be the final tranche of rollout for Superfast broadband infrastructure which will provide coverage to as many as possible of the final 3%.
- It is recognised that it is unlikely that 100% coverage to 24mbps+ across Cambridgeshire and Peterborough will be achieved and that coverage for over 99% premises is ambitious.
- There are approximately 400,000 business and residential premises in Cambridgeshire and Peterborough. The remaining 3% (approximately 12,000 premises), not covered in Phases 1-3 will typically be in small clusters in relatively hard to reach areas and widely scattered throughout the county.
- The challenges involved in the fourth rollout phase means that a more complex procurement and delivery approach, potentially using new communications technology and innovation, will be required in order to achieve as much coverage as possible.
- Unlike Phases 2 and 3, which are being delivered by BT under change control within the original contract, it is proposed that a new procurement is undertaken and that a procurement strategy is devised with an accompanying “lot” approach to determine the optimum way to provide coverage for the remaining premises. This may also involve inviting communities to contribute funding for a solution in addition to public and supplier funding where it would otherwise be unaffordable and fail to meet state aid intervention rules.

b) Improving 3G and 4G Mobile Coverage

- A review of the Council’s telecommunications equipment hosting policy, which has the potential to facilitate greater coverage, is currently being undertaken and will report to the Assets and Infrastructure (A&I) Committee by June 2017.

- In the meantime mobile operators current plans to increase coverage by end of 2017 to meet national targets are being scrutinised to analyse the impact for Cambridgeshire and these will be monitored and combined with coverage analytics to track progress and help ensure that better mobile voice and data is achieved. This will include analysis of mobile coverage plans for larger new sites such as the development at Northstowe.
- From 2018 onwards any remaining “not-spots” along with potential solutions will be identified – this could include community based “small-cells” and/or negotiation with operators in relation to specific areas of unmet demand.

c) Increasing public access Wi-fi availability in rural areas.

- Public access Wi-Fi supports increased community resilience and digital inclusion, enabling greater independence and less reliance on public services. This is particularly the case in more isolated rural areas.
- A joint investment approach will be explored to increase access to Wi-fi hotspots across the County via a joint investment approach with village hall committees and other community asset owners. This involves a small amount of capital investment from the County Council, with ongoing equipment and revenue costs funded by communities, modelled on an approach being undertaken by the Superfast Essex Programme. Details at the following link:
([https://www.essexrcc.org.uk/News/Superfast Essex Community WiFi Scheme.aspx](https://www.essexrcc.org.uk/News/Superfast_Essex_Community_WiFi_Scheme.aspx)).

d) 5G testbed and pilot area

- Government is currently consulting on the development of 5G services and planning to identify a number of pilot and test bed areas across the country to be at the vanguard of 5G connectivity. It is proposed that Cambridgeshire (along with Peterborough) is put forward for consideration as a 5G test bed area, which could bring significant long term benefits to the county.

3. Finance Overview

3.1 Background

In 2011 the Council allocated a capital sum of up to £20m to deliver the Connecting Cambridgeshire Programme and Peterborough City Council committed £3m funding. This was to complement an initial allocation of £6.75m government funding.

Over the life of the project the programme has been successful in using the Council's investment to leverage a range of additional external funding streams. This includes c. £18m private investment, c. £12m central government funding and over £2m EU funding to date.

Programme running costs have also been partially offset by taking on consultancy and support work from other local authorities and administering the SCCP voucher scheme for the East & Midlands on behalf of BDUK.

The Superfast broadband roll-out contract with BT incorporates a “claw-back” clause which requires them to contribute a proportion of any higher than anticipated profits (generated via take-up) into a joint investment fund during the life of the contract . This has phased payments which will conclude at the end of the 10 year contract term in 2024.

Take-up to date in Cambridgeshire has exceeded original expectations. At 41% at the end of 2016, it is amongst the highest in the country and continues to increase. Based on take-up to date, a relatively pessimistic calculation estimates the gainshare investment fund will stand at £10.5m by the contract end date in 2023. A more optimistic estimation projects a fund of £12.6m. For the purposes of this proposal the lower figure has been assumed, and includes any associated interest payments.

3.2 **Forward Plan 2017-2020**

£5.3m gainshare investment funding has already been pulled forward by BT and together with contract underspends this is providing the funding for the Phase Three rollout currently being planned. This approach was approved by the E&E Committee in March 2016.

It is proposed that Phase Four broadband rollout, targeting the remaining 2-3% premises is funded by a combination of ERDF (European Regional Development Fund - £2.3m) and borrowing up to £5m against the joint investment fund - which is otherwise not available until 2023. This provides matched funding to enable an ERDF bid to be made.

5G test-bed/pilot costs are unknown at present. Government has announced a very substantial funding stream to global competitiveness in 5G. Further details are expected in the budget but the process for areas to bid is not likely to be known until later this year. This funding allocation is proposed in the event that local match is required in order to participate.

Funding for the proposed work streams b) and c) to improve mobile coverage and public access Wi-fi is available within the programme budget.

A table of the budgetary requirements to meet the proposed connectivity targets, along with proposed funding sources as outlined above are as follows:

Connectivity	Target	Funding	Funding source
Fixed (Phase 4)	>99%	Up to £7.3m	Up to £5m borrowing against joint investment fund £2.3m ERDF bid
Mobile	>=National coverage	-	No capital investment – requires programme support
Public Access Wi-fi	+50 locations	£25k	Programme contingency – within original funding allocation
Future Digital (5G)	Test-bed location	£250k	Programme contingency – within original funding allocation

4. ALIGNMENT WITH CORPORATE PRIORITIES

4.1 Developing the local economy for the benefit of all

The report above sets out the implications for this priority in 1.1 above and in Appendix One "Blueprint for 21st Century Infrastructure"

4.2 Helping people live healthy and independent lives

The report above sets out the implications for this priority in 1.1 above and in Appendix One "Blueprint for 21st Century Infrastructure"

4.3 Supporting and protecting vulnerable people

The report above sets out the implications for this priority in 1.1 above and in Appendix One "Blueprint for 21st Century Infrastructure"

5. SIGNIFICANT IMPLICATIONS

5.1 Resource Implications

The financial implications have been outlined in Paragraph 2.4 above.

5.2 Statutory, Risk and Legal Implications

Lawful intervention in the telecommunications market is subject to state aid exemption sign-off, which is administered by the UK Government and subject to assurance sign-off from Broadband UK (BDUK), which is part of the Department for Culture, Media and Sport (DCMS).

5.3 Equality and Diversity Implications

Community Impact Assessment undertaken in 2013 is attached as Appendix Two

5.4 Engagement and Consultation Implications

A public consultation regarding existing coverage will be included as part of Phase Four planning and state aid exemption assurance will be sought as part of the procurement exercise.

5.5 Localism and Local Member Involvement

The programme covers all areas of the County and a number of members have been involved in rollout phases to date as broadband champions and in support of the programme

5.6 Public Health Implications

There are no significant public health implications

Source Documents	Location
<i>None</i>	

Implications	Officer Clearance
Have the resource implications been cleared by Finance?	Yes Name of Financial Officer: Chris Malyon
Has the impact on Statutory, Legal and Risk implications been cleared by LGSS Law?	Yes Name of Legal Officer: Fiona McMillan
Are there any Equality and Diversity implications?	No Name of Officer: Tamar Oviatt-Ham
Have any engagement and communication implications been cleared by Communications?	Yes Name of Officer: Jane Sneesby
Are there any Localism and Local Member involvement issues?	No Name of Officer: Tamar Oviatt-Ham
Have any Public Health implications been cleared by Public Health	Yes Name of Officer: Iain Green

Cambridgeshire and Peterborough Digital Connectivity Blueprint for 21ST CENTURY INFRASTRUCTURE

An up-to-date and future-facing Digital Connectivity Infrastructure is essential for Cambridgeshire to maintain its position as a leading digital county



Economy

- UK digital economy, largest of the G-20, already more than 1.2% of GDP and growing 2.5 times faster than any other sector.
- Internet traffic set to double every two years
- Above average demand for digital connectivity in Cambridgeshire
- 20% growth in tech-based businesses - employing more than 60,000 staff with turnover greater than £1bn in the Greater Cambridge area alone.

Education & Skills

- Being online at home has positive effect on children's attainment
- Next generation expected to be 'always on'
- Digital skills are vital for employers
- Job searches and training increasingly online

Business

Communities

Public Sector + 3rd Sector

Residents

Academia

Quality of life

- Rising numbers of internet devices per household
- 90% of adults use the internet, 65% use smartphones to go online
- Online shopping, banking and paying bills
- Freelance working reduces travel time and congestion
- Digital access to public services
- Entertainment and health in touch

Health & Wellbeing

- Using digital technology to modernise health - Cambridgeshire & Peterborough Sustainable Transformation Plan (STP)
- Local Digital Roadmap (LDR) improving connectivity, quality and effectiveness of health care by 2020.
- Health apps and online tools provide rapid, reliable information for patients
- Data and information sharing helps health and social care work together
- Telehealth and remote monitoring to help people live independently

DIGITAL CONNECTIVITY TIMELINE

2010
60%
Superfast

2015

Free 30+ hotspots
Camb WiFi in streets
& open
120+ public
sites

2016

84% 2G
and < 20% 4G in
Cambridgeshire

2017

90%
national
target

2020

Target up to
50 more to be 5G
community
test-bed
locations

> 99%
national
target
for all -
Superfast



Appendix Two – Community Impact Assessment

Directorate / Service Area	Officer undertaking the assessment
ETE	Name: Noelle Godfrey
Service / Document / Function being assessed	Job Title: Programme Director - Connecting Cambridgeshire
Connecting Cambridgeshire	Contact details: 01223 699011
<ol style="list-style-type: none"> 1. The Connecting Cambridgeshire Programme, comprising the Cambridgeshire and Peterborough Superfast Broadband project, which aims to make superfast broadband available to at least 90% of residential premises county-wide and, 2. The Cambridge Super Connected City project, which aims to make fixed broadband connection speeds of over 80-100Mbps available to 100% of businesses and enable high-speed Wi-Fi in the extended urban area of Cambridge. 	
Aims and Objectives of Service / Document / Function	
<p>The Programme has two main aims:</p> <ul style="list-style-type: none"> • Developing the local economy for the benefit of all • Helping people live healthy and independent lives in their communities. 	
What is changing?	
<p>The planned improvements to the digital infrastructure will greatly assist Cambridgeshire to meet strategic commitments to:</p> <ul style="list-style-type: none"> • drive economic growth • facilitate the transformation of public services • support social inclusion <p>The employment landscape of the county will be altered by this project, as businesses become better able to set up and grow in areas of Cambridgeshire and Peterborough that are currently constrained by poor broadband connectivity. This will help to reduce countywide unemployment, including in some of the most isolated areas, and will improve the development and retention of skills among residents in these areas.</p> <p>Access to superfast broadband will be the crucial enabler for public services going 'digital by default'. Digital by default means digital services which are so straightforward and convenient that all those who can use digital services will choose to do so, while those who can't are not excluded. Digitising transactional services will save people and businesses time and money; by making transactions faster, reducing the number of failed transactions and simplifying the end-to-end process. Over time, the success of better designed digital services will reduce the scale and profile of less convenient, less effective and less cost-efficient contact methods (telephone, face to face, post).</p> <p>People across Cambridgeshire and Peterborough will be better able to access essential services online and, in many cases, to be better involved in their local communities, encouraging community vitality. Social exclusion will be reduced by this project.</p> <p>The availability of superfast broadband will help to address issues of exclusion among elderly and disabled people, as they will be better able to access services online that they may otherwise not be able to access. The development of children and young people will also be supported, particularly helping to create a strong, ICT-literate community for the future.</p>	

The targets are to:

- facilitate an improved GVA
- increase business connectivity
- increase digital inclusion
- eliminate “not spot” areas in Cambridgeshire

Access to superfast broadband at a minimum of 24Mbps will be facilitated for at least 90% of residents. This will greatly increase the ability of residents to access online services, both for leisure and more essential services, and will allow County Council services to be provided to a greater range of people in more isolated areas. Businesses throughout the county will also have access to superfast broadband facilitated by this project. This will enable a greater number of businesses from a broader range of industries to set up and operate in areas that are not currently feasible. This will contribute to reducing unemployment and encouraging skills utilisation in more isolated areas of the county.

Who is involved in this impact assessment?

Council officers, stakeholders from the LEP, University of Cambridge, CU Health Partnership, Anglia Ruskin University and Urban & Civic (Alconbury Enterprise Zone), members & senior officers from Cambridgeshire County Council, Cambridgeshire’s District Councils and Peterborough City Council.

WHAT WILL THE IMPACT BE?

Tick to indicate if the impact on each of the following protected characteristics is positive, neutral or negative.

Impact	Positive	Neutral	Negative
Age	x		
Disability	x		
Gender reassignment		x	
Marriage and civil partnership		x	
Pregnancy and maternity		x	
Race		x	
Religion or belief		x	
Sex		x	
Sexual orientation		x	
The following additional characteristics can be significant in areas of Cambridgeshire.			
Rural isolation	x		
Deprivation	x		

For each of the above characteristics where there is a positive or negative impact please provide details, including evidence for this view. Describe the actions that will be taken to mitigate any negative impacts and how the actions are to be recorded and monitored.

Positive Impact
<p>The rollout of broadband and superfast broadband will make a significant contribution to reducing rural isolation, by making essential and other services vastly more accessible to some of the most isolated communities of Cambridgeshire and Peterborough.</p> <p>Superfast broadband will also help to encourage the setting up and location of businesses in areas where they may not currently set up. This will help to reduce unemployment and to encourage greater development of skills in these areas, all of which will help to reduce deprivation around the county.</p> <p>Age and disability are highlighted above as areas that can particularly expect to be impacted in a positive way. The greater availability of online services that will be facilitated by this project and the rollout already planned by the private sector will help to address issues of isolation experienced particularly among the elderly and disabled. Other than these groups in particular, the project will not have any impact on any specific groups more than others; rather it will bring significant benefits to all.</p> <p>Aspects of the demand stimulation programme will deliberately seek to work with groups that support the elderly and vulnerable so that the benefits of improved access to services are fully recognised by these groups.</p> <p>The project will be rolled out in a way that benefits the whole of Cambridgeshire.</p>