

Cabinet

12 November 2020

Digital Connectivity and 5G

Recommendations

That Cabinet:

- 1) Agrees that there is a need to extend and improve gigabit digital connectivity across Warwickshire and approves and adopts the Digital Infrastructure Strategy (at Appendix C) to support the Council Plan 2020 – 2025, the Council’s Covid–19 Recovery Plan and the Warwickshire Place Shaping Programme.
- 2) Agrees to establish a Digital Connectivity Board supported by a Digital Infrastructure Team (as set out at paragraph 5.2 and subject to funding being available) to develop and promote a Digital Infrastructure Programme for and to coordinate and manage the deployment of full fibre connectivity and 5G mobile networks across Warwickshire.
- 3) Authorises the Strategic Director for Resources to develop the governance and project management arrangements for the Digital Infrastructure Programme in line with the objectives of the Digital Infrastructure Strategy and the Council Plan 2020 – 2025 and the requirements of the constitution.

1.0 Purpose of the Report and Context

- 1.1 In July 2018 the Government published the ‘Future Telecoms Infrastructure Review’ (FTIR) as part of its Digital Strategy and Industrial Strategy, highlighting its aspirations for creating a ‘world-class digital connectivity that is gigabit-capable, reliable, long-lasting and widely available across the UK – and to do so at pace’. The Government set out the scale of the task of creating a full fibre future for the United Kingdom with the aim to see 15 million premises connected to full fibre by 2025, with coverage across all parts of the country by 2033, and 5G coverage for the majority of the population by 2027. If this is to happen, it will be necessary to speed up both Fibre and 5G deployment, with Fibre being a key enabler for 5G. In this scenario, any improvement in the availability of Fibre will, in turn, provide 5G more quickly and potentially at lower cost.

1.2 At its June meeting, Cabinet agreed that the Place Shaping priorities for Warwickshire would include Digital and 5G and that access to fast high speed and reliable internet is now an important consideration for residents and businesses when considering living, working or investing in Warwickshire. Our local economy depends on our digital infrastructure delivering the necessary connectivity for everyone, both now and in the future. Fast and reliable broadband connections will enable community hubs, public services, and businesses to grow and develop as well as opening up the possibilities of new services for individuals.

1.3 Digital connectivity will play a central role in helping the economy recover. Recent reports suggest that the Covid-19 crisis is accelerating the adoption of digital services by 2 to 5 years, including remote working, remote learning, telehealth and e-commerce. It is critical that Warwickshire seizes this opportunity to transform our economy digitally to power economic and social recovery. Warwickshire County Council's Covid -19 Recovery Plan recognises the need to progress the use of digital technologies and that connectivity to fibre broadband, gigabit capable wireless and mobile connectivity (including 5G) are essential foundations for economic growth and prosperity, helping to establish the region as a digital county and destination for investment, jobs, new housing and business infrastructure. Priority 7 of the plan, outlines the need to invest in regeneration and a sustainable future and commits:

'To support businesses to trade online, people to buy online goods, children and young people to learn online, and people to work from home we will address issues of poor connectivity by accelerating development of digital infrastructure and improved coverage (fibre, 5G and 4G, mobile).'

1.4 The Council Plan 2020 – 2025 further recognises the need for good digital connectivity:

'We will continue to support the roll-out of a faster broadband service and 5G to all communities, which will support residents and businesses in both rural and urban areas.'

1.5 The Capital Strategy contains the following within its drivers for investment:

"The West Midlands has been selected as the preferred partner for the government's Urban Connected Communities project which will develop a large-scale, 5G pilot across the region, with a hub in Coventry. 5G mobile connectivity is expected to revolutionise the digital environment, with benefits to business, public services and society; attracting investment and talent to the region. It will also provide opportunities for locally based businesses to

contribute to the innovation ecosystem and improve connectivity to support small and social enterprises particularly the digital and creative and SME sectors.”

- 1.6 There is a significant opportunity to build on the County’s existing strengths in digital and gaming through development of the 5G network, broadband and connectivity, as well as increasingly using digital to support Council services to business and communities.
- 1.7 The Government is committed to supporting the deployment of gigabit broadband across the country and is investing £5 billion by means of the ‘Outside-In’ programme to deliver gigabit speeds to the hardest-to-reach communities in the UK. In addition, the Government have announced a £1 billion ‘Shared Rural Network’ deal with the mobile networks companies to extend 4G mobile coverage to the most rural parts of the country. Warwickshire needs to be in a position to take advantage of this investment funding.
- 1.8 In addition to financial investment, the Government is working to remove the barriers that slow down or prevent deployment of infrastructure, through a range of measures including legislative reform, regulatory reform, and the provision of new digital services.
- 1.9 The Government considers Local Authorities will play a critical role in delivering gigabit broadband. The deployment of these networks is complex and requires strong collaboration not only between telecommunications operators, councils and third parties (such as contractors), but also internally within the council. It is crucial that in order for councils to most effectively meet this challenge, all relevant teams - highways, planning, legal, estates and housing - work towards an agreed goal: bringing digital connectivity, along with faster economic growth and greater social inclusion, to local businesses and residents within the appropriate legal and regulatory frameworks. Councils are in an excellent position to support investment and roll-out by ensuring that effective policies and procedures are in place to promote engagement with industry. The letter addressed to all Local Authorities from DCMS/ MHCLG is attached as a background paper – Appendix A.

2.0 Superfast Broadband and Full Fibre Connectivity

- 2.1 The BDUK Superfast Broadband programme started in 2010 and saw Warwickshire lead a partnership with Coventry, Solihull and our five Districts and Boroughs to establish the Coventry Solihull and Warwickshire (CSW) Superfast Broadband delivery team. The team has co-ordinated and managed the programme and the investment funding from a range of partners and

stakeholders including Government departments, DCMS and BDUK, the European Regional Development Fund (ERDF) and Coventry and Warwickshire Local Enterprise Partnership. This programme of work has proven very successful in that it has exceeded the target by achieving 98% Superfast coverage across Warwickshire. However, in the 10 years since the start of this programme, it has become necessary to reset connectivity targets to gigabit speeds (1000Mbps). The new target set by Government is to connect the majority of premises with full fibre connectivity by 2025 and all premises by 2033.

2.2 The following table indicates the present level of full fibre connectivity for premises across Warwickshire, with national and local comparisons:

	Warwickshire	Coventry	Oxfordshire	Worcestershire	England
Full Fibre Connectivity (FTTP) to Premises	8.18%	53.75%	14.10%	9.12%	15.37%

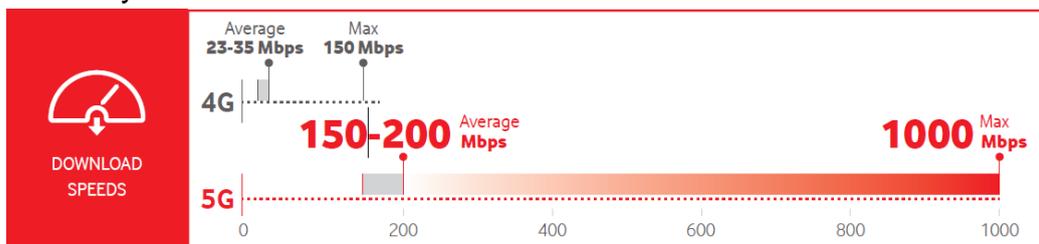
Warwickshire's relatively low level of full fibre coverage reflects the fact that it is more difficult and more expensive to deploy fibre connectivity into rural areas.

2.3 The Warwickshire CSW team has been successful in bidding for £5.7m from the Government's Local Full Fibre Network (LFFN) Challenge Fund. This will deliver gigabit full fibre network connections into 320 of our public buildings including schools, libraries and fire and rescue sites. More importantly, this will bring the gigabit full fibre network into the communities surrounding these buildings ensuring that residential and business premises are also able to access gigabit services. This LFFN programme will extend the gigabit fibre network into businesses and homes across Warwickshire, is critical in that it will also lay the foundations for the fibre backhaul circuits necessary for future deployment of 5G mobile connectivity.

2.4 The combination of the LFFN programme of work, together with the completion of Contract 3 of the Superfast BDUK programme will help to increase the overall full fibre coverage for Warwickshire. However, at the completion of these programmes, in September 2021, overall full fibre coverage across Warwickshire is estimated to be 20%. A strategic intervention programme will be necessary to ensure that Warwickshire can significantly increase full fibre coverage above 50% by 2025, leading to 90% by 2030.

3.0 Mobile Connectivity - 4G and 5G

- 3.1 4G was launched in 2012, introducing a new wave of faster mobile broadband. In the coming years 4G will continue to improve but the move to 5G will provide a step change in the quality and reliability of mobile internet connections.
- 3.2 Government investment in the 'Shared Rural Network' will help solve most rural network coverage issues – extending 4G coverage to 95% of the UK landmass. In the UK, at least initially, 5G is being built on top of the existing 4G network infrastructure. This means that the improvements being made through the 'Shared Rural Network' will form the basis for future 5G rollout.
- 3.3 5G is not just the next generation of mobile network technology. It is a step-change in both speed and capacity. Offering speeds up to 10 times faster than 4G and a huge boost to network capacity, the benefits will be felt across the economy.



- 3.4 One very positive development of our work is the proposed partnership between Warwickshire County Council, Warwick University and BT. The focus of this work will be to establish a 5G Accelerator in Leamington Spa. This will support Warwickshire businesses and SMEs to better understand 5G technologies. Furthermore, this enterprise will help local tech companies to exploit the advantages that 5G networks will bring to the market and develop new products and services.

5G & Health Concerns

- 3.5 A small number of people have expressed concerns about the potential harmful effects on human health of 5G. There is nothing fundamentally different about the physical characteristics of the radio signals that will be produced by 5G to previous technologies like 3G and 4G. The Government has developed guidance to help councils and local politicians deal with queries from the public, counter misinformation and explain the facts about 5G. This will help support the Council's role in facilitating the roll-out of next-generation infrastructure, and prevent misleading claims becoming a barrier to roll-out. This guidance document is attached as a background paper - Appendix B.

4.0 Future Requirements

- 4.1 The Government is committed to supporting the deployment of gigabit digital connectivity and is investing £5 billion through the 'Outside-In' programme to deliver gigabit speeds into our rural communities. In addition, the government is investing over £1 billion into the 'Shared Rural Network' which will extend 4G mobile coverage to the most rural areas of the UK. This funding will be available to Local Authorities over the next three years, according to need, and with the proviso that each Local Authority has a clear ambition and commitment to achieve full fibre gigabit connectivity and 5G coverage over the next 5 – 10 years.
- 4.2 Government recommends that authorities create a Digital Connectivity Board to drive forward the Digital Infrastructure Strategy. This Board should include a Council member to act as Digital Ambassador, a Senior Council Officer to act as a Digital Champion and a Council Officer to act as Digital Co-ordinator to facilitate and co-ordinate activities. The Board will be responsible for the overall Digital Infrastructure Strategy and will promote effective collaboration, not only between telecommunications operators, councils and third parties (such as contractors), but also internally within the council. The Board will also be able to support investment and roll-out by promoting appropriate and effective policies and procedures to advance the programme.
- 4.3 It is recommended that the Board is supported by a Digital Infrastructure Team which will:
- a. Develop and promote Warwickshire's Digital Infrastructure Strategy
 - b. Support and coordinate activities across all relevant teams necessary to support the Strategy
 - c. Ensure that effective policies and procedures are in place to support the delivery of the strategy
 - d. Support the 'Digital Ambassador', and 'Digital Champion' to ensure a cohesive digital infrastructure strategy
 - e. Work with the Government's Barrier Busting Task Force to identify and remove local barriers to deployment
 - f. Secure and manage funding from Government and partner stakeholders and agencies, together with investment from industry
 - g. Investigate the use of 4G mobile technologies to deliver improved Superfast connectivity to business and vulnerable people where existing connectivity is poor, as an interim measure until full fibre connectivity can be delivered. This will build upon the improvements in 4G mobile coverage brought about by investment in the 'Shared Rural Network'.

- 4.4 In order to achieve our ambition to deliver this connectivity ‘at a pace’ and to ensure that Warwickshire has an effective response to Government, it will be necessary to accelerate our planning for the future. To that end, a draft Digital Infrastructure Strategy for Warwickshire has been proposed for consideration. This is fully aligned with and supports the Council Plan 2020 – 2025 and is attached as Appendix C.

5.0 Proposals

- 5.1 Develop and adopt a Digital Infrastructure Strategy to support the Council Plan 2020 – 2025, the Council’s Covid–19 Recovery Plan and the Warwickshire Place Shaping Programme. This will formalise a plan to extend and improve gigabit digital connectivity across Warwickshire.
- 5.2 Establish a Digital Connectivity Board to develop and promote a Digital Infrastructure Programme for Warwickshire. The Board will be responsible for the overall Digital Infrastructure Strategy and will promote effective collaboration, not only between telecommunications operators, councils and third parties (such as contractors), but also internally within the council. Furthermore, it is proposed that this Board should be formulated by Councillor Kam Kaur acting as Digital Ambassador, David Ayton-Hill acting as Digital Champion and a Senior Council Officer to act as Digital Co-ordinator. It will be important to include representation from each of the Districts and Boroughs.
- 5.3 Establish and support a Digital Infrastructure Team to deliver the Digital Infrastructure Strategy and coordinate the deployment of full fibre connectivity and 5G mobile networks across Warwickshire.

6.0 Financial Implications

- 6.1 The proposed Digital Infrastructure Team would be an extension of the existing CSW Superfast Broadband Team and should ideally consist of four FTE staff to cover strategic engagement with Government to access funding for 5G and Fibre deployment, to engage with Mobile Network Operators and Fibre Network Operators, Data Analysis, GIS and Mapping, commercialisation of Warwickshire assets for macro cell and small cell builds and the application of mobile technologies as an interim solution for gigabit connectivity until full fibre can be deployed. The team would work closely with the Districts and Boroughs to liaise strategically across, planning, property, highways
- 6.2 Estimated funding needed to support this team is £240,000 per annum. It is proposed that initially the team is set up on a time-limited basis for up to two years. An application to the Place Shaping and Capital Feasibility Fund will be

made to provide the funding for the team. If the Team is required beyond this initial fixed term period then a proposal for funding will be brought forward through the annual refresh of the Medium Term Financial Strategy.

- 6.3 Digital Connectivity is an essential element of the Place Shaping agenda. but the general expectation is that priority outcomes should come forward with specific bids to the Place Shaping Fund or the Capital Investment Fund depending on whether the spend is capital or revenue in nature.
- 6.4 Government funding in the form of the 'Outside-In programme' amounts to £5bn in total. The Digital Infrastructure Team would submit a business case to access this funding. Initial estimates of Government funding for Warwickshire is £15m - £20m.
- 6.5 The Digital Infrastructure Team will also support inward investment from Mobile Network Operators and there will be income from the commercialisation of public assets for installation of small cell and macro cell antennas. The scope of this funding can only be determined following negotiation with Mobile network Operators and their agents.
- 6.6 The proposed Digital Connectivity Board will work in conjunction with the Digital Infrastructure team determine any additional financial investment required to deliver the Digital Infrastructure Strategy over time. Further submissions, detailing financial requirements to deliver the Digital Infrastructure Strategy, will be made to Cabinet for their consideration.

7.0 **Environmental Implications**

- 7.1 The speed, capacity and connectivity of 5G will provide many opportunities to protect and preserve the environment. 5G technology will be able to increase energy efficiency, reduce greenhouse gas emissions and enable more use of renewable energy. It can help reduce air and water pollution.
- 7.2 International standards have called for 5G to require much less energy to run than 4G, which means using less power while transmitting more data. For example, one kilowatt-hour (kWh) of electricity is needed to download 300 high-definition movies in 4G; with 5G, one kWh can download 5,000 ultra-high-definition movies.
- 7.3 Initially in the UK, 5G is being built on top of the existing 4G network infrastructure. This will potentially increase the height of existing masts to a marginal extent. In the future, more masts will need to be erected, controlled through existing planning legislation.

8.0 Timescales associated with the decision and next steps

- 8.1 A Digital Connectivity Board can be established by January 2021, subject to Cabinet Approval.
- 8.2 The establishment of a Digital infrastructure Team will be subject to Cabinet approval and then the ability to secure funding, potentially from the Capital Investment Fund.

Background papers

None

Appendices

Appendix A.

Copy of letter to all local Authorities from the Department for Digital, Culture, Media and Sport / Ministry of Housing, Communities and local Government.

Appendix B.

Copy of information and Guidance notes relating to 5G and Health.

Appendix C.

Digital Infrastructure Strategy for Warwickshire 2020 -2025.

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The report was circulated to the following members prior to publication:

Local Member(s): None

Other members: Cllr Peter Butlin, Cllr Kam Kaur