

CABINET
30 JANUARY 2020**RURAL CONNECTED COMMUNITIES – WEST MERCIA 5G PROJECT**

Relevant Cabinet Member

Dr K A Pollock

Relevant Chief Officer

Strategic Director of Economy and Infrastructure

Local Member

Dr K A Pollock

Recommendation

1. The Cabinet Member with Responsibility for Economy and Infrastructure recommends that Cabinet:

- (a) notes the success to date, by Worcestershire Local Enterprise Partnership (WLEP), Worcestershire County Council and project partners in delivery of the Department of Digital, Culture, Media and Sport's (DCMS) Phase One of the 5G Testbed and Trials project and ongoing extension to March 2020;**
- (b) endorses the application of the separate 'West Mercia 5G' project into DCMS's Rural Connected Communities fund, to support a 2-year research and design project in 5G in rural areas;**
- (c) notes, should the 'West Mercia 5G' application to DCMS be successful, the award of the initial grant from DCMS would be up to £3.3m and the role of Worcestershire County Council as the lead partner, managing the project, assuring and financing partners' claims and drawing down the funding;**
- (d) notes and accepts both the potential opportunities and risks that are identified within this report;**
- (e) authorises the Strategic Director of Economy and Infrastructure in consultation with the Chief Finance Officer and the Cabinet Member with Responsibility for Economy and Infrastructure to finalise and agree the necessary agreements to progress and support the proposed project; and**
- (f) authorises the Strategic Director of Economy and Infrastructure to take all appropriate actions to progress and support the proposed West Mercia 5G project and to continue to support the current Worcestershire**

5G Consortium, including supporting investigations for alternative funding sources to potentially extend the referenced projects and wider programme.

Background

2. Having been successful in its bid for Government funding to test and explore fifth generation (5G) mobile technologies within the areas of Industry 4.0, Advanced Manufacturing and Security applications in Spring 2018, the Worcestershire 5G Consortium, in line with the Cabinet Member decision in March 2019, secured additional funding and a 12-month extension of the project to deliver additional outcomes. This successful, award-winning project will continue to the end of March 2020 and is currently investigating options to continue alongside partners.
3. On 27 August 2019 the Department for Digital, Culture, Media and Sport (DCMS) announced a '5G Rural Connected Communities' funding round across the UK. Having worked with several new partners interested in this opportunity through September and October, Worcestershire County Council applied to DCMS as the lead partner of a 'West Mercia 5G' bid, to include other public and private partners on a 2-year project to commence on 1 April 2020.
4. The application focuses on innovative ways to deploy 5G networks in rural areas; if successful the areas to be covered are expected to be on the borders of where Herefordshire, Shropshire and Worcestershire meet, specifically in Worcestershire around Tenbury. The 'use cases' in the bid are expected to primarily focus on 'health and social care' applications, however more general 'use cases' may also develop.
5. If the application is successful and Cabinet agrees to support it, as the project progresses the Council would be the lead body of the consortium. This means DCMS funding will pass through the Council's accounts across 2020/2021 and 2021/2022 to fund both the Council's committed resources and the partners' grant claims. As a public sector partner the costs of the Council within the bid can be fully funded through DCMS grant. However, should the Council wish to add scope to the project, then alternative local funding could be used to investigate new opportunities.

Overview of bid submission and proposed project.

6. As a result of being involved in Phase 1 of the 5G Testbed and Trials programme, Worcestershire County Council and partners identified a number of productivity benefits within 'Industry 4.0' and Smart Manufacturing. The feedback from other Phase 1 Testbeds has also suggested other potential benefits of 5G and opportunities would seem to exist for applications across other sectors, including public services.
7. Whilst the Council has invested in digital fibre-based broadband infrastructure across the county and improved rural coverage significantly, many rural areas of the county, as elsewhere in the country, are often the poor relations of their urban neighbours when it comes to both fixed broadband services but also mobile coverage for both calling and internet services.
8. At the same time, providers of public services in rural areas are facing increasing demands for their services from an aging population at a time when their funding has

been under increasing pressure. In Worcestershire much of this innovative work and investigation into technology-based solutions is taking place, but in many instances these solutions may benefit and be further improved by the new capabilities in connectivity that a 5G based solution brings, and in addition services previously not deemed viable due to poor connectivity can also be revisited.

9. Recognising the opportunity that the DCMS Rural Connected Communities fund provided to address these types of issues, both Worcestershire County Council and representatives of the Herefordshire and Worcestershire Sustainability and Transformation Partnership (STP), a partnership of Health and Care Bodies delivering and commissioning health and care services which includes the councils and NHS organisations, began discussions for a potential bid alongside other partners. It transpired that Airband, a Worcestershire-based provider of 'fixed wireless broadband' across rural areas in the UK, and Three Mobile were also investigating the available fund from the perspective of researching how the new 5G ecosystem, technologies and changes in policy and telecommunications regulations could operate in hard to reach rural areas. Ultimately a proposed consortium of Worcestershire County Council, Shropshire Council, Airband, Herefordshire and Worcestershire STP, Three Mobile, the Universities of Chester and Worcester and the West Midlands Academic Health Science Network were included in the funding application for West Mercia 5G, with opportunities to bring in additional 'use case' partners at a later date as appropriate.

10. The proposed West Mercia 5G project brings together two very distinct challenges. The first, a proposed new business model, is how the mobile industry in the UK deploys 5G in rural areas at pace, but also at reasonable cost; the second is how councils and what are currently the Clinical Commissioning Groups and other care providers in rural areas, when faced with increasing demands for their critical services and with funding stretched due to increasing demand, find new models for delivery. With a range of new assistive technologies being developed, improved connectivity will facilitate and allow new technologies that lead to potential improvements in key services and previously unviable new services, with a view to exploring how 5G and associated technologies could support out of hospital care and improve quality of lives, as well as improve access and connectivity between health and care services and professionals.

11. The Herefordshire and Worcestershire STP has developed a Health and Social Care Digital Strategy and within this is the ambition to improve their infrastructure (and test new solutions) that will enable them to deliver new models of integrated care including enabling independent living and greater access to services, clinicians and care professionals. The proposed project is supported by the STP Digital Board and was endorsed by them in October 2019. Other partners have confirmed they have required governance in place or have at least provided their letters of support in support of the application.

12. The two challenges intertwine as whilst the new business model aims to reduce initial build costs, mobile operators must also find new revenue streams, beyond traditional 'mobile phone users', to justify the ongoing operational costs of delivering a network. Whilst 5G can provide improved home broadband services, it also has the capacity to support critical services, which are described in detail later. For a local authority or their care providers, if they were able to use 5G applications, such as high definition video to undertake care visits, they could save transport costs, reduce

carbon footprint, undertake more visits (albeit virtual) per day, respond quicker and prioritise staff resource more effectively by only physically attending those with highest need. This could transform the service and efficiencies from reduced transport costs (time and fuel), a proportion of which would be then spent on the 5G network and data costs, but the majority could be reutilised in addressing increasing demand.

13. The impact of limited existing digital connectivity has an effect not only on rural public services and businesses but also on general quality of life. This covers such diverse concepts as lone workers and lonely and vulnerable individuals lacking the reassurance that they can reach emergency services or family members if needed, to gamers wishing to access the latest Augmented Reality gaming services. The challenge we aim to address in rural areas is therefore two-fold, investigating universal connectivity needs but also allowing for new products and enhanced services. Addressing these challenges will support both the growth in the type and quality of services available in rural areas as well as bringing improvements in quality of life to rural residents.

14. It should be noted that this ambitious, research and design project is not expected, in itself, to transform and deliver ubiquitous 5G connectivity across the three counties of Herefordshire, Shropshire and Worcestershire. It is a defined project within a relatively confined geography on the borders of the three counties. It will provide opportunities to learn if the proposed new way of deploying new 5G infrastructure is viable and if new or transformed public and private services can be delivered via 5G more effectively.

15. As with the Worcestershire Phase 1 project it demonstrates Worcestershire and the wider area is innovative and open to new ways of working, utilisation of assets and able to work in public and private partnerships. Being at the forefront of this new technology will enable the area and our businesses to understand and respond quickly to opportunities as commercial 5G solutions are deployed across the UK in coming years.

Legal, Financial and HR Implications

16. The legal implications for the Council undertaking the West Mercia 5G project as lead partner are that the Council will need to assume certain obligations to DCMS under the Grant Agreement. As far as possible, these will be passed down to partners through a Collaboration Agreement which will need to be agreed. As with the Phase 1 Project, State Aid guidance will need to be followed with regard to the funding being accessed by the private sector partners; the approach is taken on the basis that a General Block Exemption for aid for research and development and innovation applies.

17. The total amount expected to be spent on the West Mercia 5G project, as it is proposed, is £5.8m with £3.3m funded by the DCMS grant and the remaining £2.5m from partner contributions. As the lead partner with responsibility for the grant agreement with DCMS, the £3.3m would be added across the 2020/21 and 2021/22 Economy & Infrastructure finance account, with a corresponding amount added as grant income. As a public body the Council's costs can be fully met by DCMS funding.

18. If the bid is endorsed by Cabinet and successful, the grant would be claimed from DCMS in arrears, and the Council would be required to make payments to partners in line with the milestones once the grant funding has been received from DCMS. In order to ensure that exposure to ineligible expenditure by partners is mitigated and sufficient documentation is received in advance from partners to enable a full grant claim process, a Consortium Collaboration Agreement is required to be signed by all partners clearly setting out the requirements and relationship.

19. The HR implications include the Council resourcing the Project Management, for most roles this will include redeployment of existing resource where practicable, but it may be necessary to recruit some roles on fixed term arrangements or if particular expertise is required or short-term requirements are identified, temporary recruitment into roles or commissioning of services will be required. The costs to the Council will be largely covered by the grant drawdown, however some marginal costs will be covered by the Council's existing resources.

Risk Implications

20. A summary of high-level project risks for the Council is detailed at Appendix A.

Public Health Impact Assessments

21. Should the bid be successful, 'Public Health Impact Assessments will be undertaken in relation to both the network build and the proposed 'use-cases' as appropriate.

22. It should be noted a number of health concerns have been raised by campaign groups and members of the public around the UK into central government and into the Council, regarding the safety of '5G' technologies, largely linked to the health and ecological impacts.

23. Public Health England released their latest guidance on 5G technologies: radio waves and health on 3 October 2019, summarising the findings that it is possible that there may be a small increase in overall exposure to radio waves when 5G is added to an existing network or in a new area. However, the overall exposure is expected to remain low relative to guidelines and, as such, there should be no consequences for public health.

Privacy and Data Protection Impact Assessments

24. No adverse Privacy or Data Protection impacts have been identified during the bid submission stage, specific to the West Mercia 5G project. It is noted, should the bid be successful, these will need to be undertaken prior to the project commencing alongside partners including the local National Health Service body. It is also anticipated that dependent on the progress of the 'use cases' that further Impact Assessments will need to be undertaken in the life of the project if deemed appropriate.

25. More generally, 5G networks are projected to be the future backbone of our increasingly digitised economies and societies. Billions of connected objects and systems are concerned, including in critical sectors such as energy, transport, banking, and health, as well as industrial control systems carrying sensitive

information and supporting safety systems. Ensuring the security and resilience of 5G networks is therefore essential. In November 2019, European Union Member States, with the support of the Commission and the European Agency for Cybersecurity published a report on the 'EU coordinated risk assessment on cybersecurity in 5G networks'. 'Security by Design' was one of the themes of the Phase 1 Worcestershire 5G Testbed and in this rural 'West Mercia 5G' project we have the opportunity alongside partners to understand, in advance, more of the increased security challenges we are already seeing and will face increasingly in the future.

Equality and Diversity Implications

26. Should the application to DCMS be successful, an Equality Relevance Screening will be completed prior to the project commencing; if required a full Equality Impact Assessment will be undertaken in the early stages of the project.

27. It should be noted an Equality Relevance Screening was completed at the start of the original Worcestershire 5G Phase 1 Testbed; the screening did not identify any potential negative equality considerations requiring further consideration during the project. It is anticipated if successful the 'use cases' in the proposed 'West Mercia 5G' project have the potential to impact positively on individuals in rural areas with protected characteristics, including the availability and quality of services.

Supporting Information

- Appendix A – summary of high level project risks.

Contact Points

Rachel Hill, Strategic Commissioner – Major Projects
Tel: (01905) 843539
Email: rjhill@worcestershire.gov.uk

Ste Ashton, Broadband and Connectivity Manager, Economy and Infrastructure
Tel: (01905) 845389
Email: sashton@worcestershire.gov.uk

Background Papers

In the opinion of the proper officer (in this case the Strategic Director of Economy and Infrastructure) the following are the background papers relating to the subject matter of this report:

Agenda and minutes for the meeting of Cabinet held on [19 April 2018](#).

Cabinet Member Decision - Worcestershire 5G Consortium Extension Report - [7 March 2019](#) and associated [Decision Notice](#)

Public Health England guidance on 5G technologies: radio waves and health on [3 October 2019](#)