

## Scrutiny Board 5G Briefing Note

### **Purpose**

1. The purpose of this note is to provide some background information regarding 5G to help members of the Scrutiny Board (Adults, Health and Active Lifestyles) consider the request for scrutiny.

### **Background**

2. 5G is the latest generation mobile phone technology, the successor to 4G. In addition to providing much more capacity for data and video, it will support a wide range of new solutions such as remote health services, health and social care applications and transport and automotive services.
3. OFCOM is effectively responsible for licencing 5G operators – which it has done through its recent auction process (details available here).
4. Several government departments are also running various programmes for national investment in 5G solutions including DCMS through 5G Testbed and Trials and the Urban Connected Communities programme. Leeds did bid for 5G test bed status in the summer of 2018 but was unsuccessful and Leeds City Council currently has no specific 5G funding or programme in place.

### **How is 5G different?**

5. 5G technology is different to previous generations in many ways. It has a range of additional technical capabilities designed to provide more bandwidth and enable applications to respond faster. It will also operate at different radio frequencies. Current UK networks operate at frequencies of around 900Mhz, and between 1.8GHz and 2.1GHz. 5G will operate at lower frequencies (such as 700MHz) and at higher frequencies (such as 3.4Ghz).
6. 5G is not just about faster internet speeds. It also offers lower latency than 4G connections: that means less of a delay between sending a request and getting a response

### **5G Availability**

7. 5G is not yet fully commercially available in the UK, however the Mobile Network Operators (MNOs) are trialling the technology and preparing launch plans. It is likely that the MNOs (O2, Vodafone, EE and 3) are planning to add 5G initially to their existing cellular network services.
8. 5G will support around 1 Million devices per Square Kilometre compared with a maximum of 60,000 for 4G. 5G will need many antennas which are likely to need access to street furniture which may include lamp posts. This will have implications for Local Authorities.
9. To date there have been no specific planning discussions around the deployment of 5G in Leeds. Any future 5G specific requirements would have to be considered and planning requirements assessed as they arise.

### Health and Safety

10. UK Telecoms infrastructure sites including mobile phone base stations and other radio transmitters comply with all current health and safety guidelines, including the guidelines of the International Commission for Non-Ionising Radiation Protection (ICNIRP) in all areas legitimately accessible to the public.
11. The ICNIRP guidelines are accepted as the appropriate safeguard to public health by the UK Government on the advice of Public Health England, by the European Union and by the World Health Organisation.
12. Public Health England (PHE) advises there is no convincing evidence that radio wave exposures below these guideline levels cause health effects.
13. Many measurements have been made of the exposure levels at locations near to existing telecommunications transmitters and these continue to show that exposures of the general public to radio waves are well within the guidelines.
14. UK mobile communications network operators have committed to complying with the ICNIRP guidelines. PHE has said it will monitor the evidence applicable to 5G and other radio technologies and revise its advice should that be necessary.
15. Some people have questioned whether there are health risks from 5G, but experts and regulators say there is no evidence of danger. Similar fears were expressed around earlier mobile internet and Wi-Fi.
16. 5G technology is new but experts believe it poses no greater risk than earlier mobile systems. To date there has been no specific guidance issued from Central Government on any Health or Environmental Risk Assessment relating to 5G.

### Summary

17. The roll out of 5G is a national infrastructure process that has already been licensed and as a Local Authority, Leeds City Council has very limited influence over future direction or deployment.
18. Leeds City Council maintains strong connections with the Telecoms industry and Government to ensure awareness of developments around 5G services.

### Further Information

The ICNIRP guidelines, can be found here: <https://www.icnirp.org/>

Radio spectrum in the UK is regulated by Ofcom: <http://www.ofcom.org/>

The Health and Safety Executive website describes the responsibilities of mobile communications network operators in relation to radio transmissions:  
<http://www.hse.gov.uk/radiation/nonionising/>

The UK MNOs publish their policies in relation to mobile phones, masts and public health on their websites.

### Vodafone

<https://www.vodafone.com/content/sustainabilityreport/2015/index/operating-responsibly/mobiles-masts-and-health.html>

### Telefonica (O2)

[https://www.telefonica.com/en/web/responsible-business/environment/electromagnetic-fields/faqs\\_en](https://www.telefonica.com/en/web/responsible-business/environment/electromagnetic-fields/faqs_en)

### EE

<https://ee.co.uk/our-company/corporate-responsibility/building-trust/responsible-network>

### 3

[http://www.three.co.uk/About\\_Three/Responsible\\_Business](http://www.three.co.uk/About_Three/Responsible_Business)