

**REPORT OF THE HEAD OF PLANNING, ECONOMY AND REGENERATION**

**THE PLANNING IMPLICATIONS OF 5G MOBILE TECHNOLOGY**

**Cabinet Member:** Cllr Graeme Barnell

**Responsible Officer:** Mrs Jenny Clifford, Head of Planning, Economy & Regeneration.

**Reason for Report:** The Chairman of Scrutiny Committee has requested that this report be prepared for consideration. The focus of this report is on the planning system and 5G technology. The report is not intended go into depth on the technology, nor consider health concerns from some quarters, save to note that ICNIRP (International Commission on Non-Ionizing Radiation Protection) is an independent non-profit organisation, that provides scientific advice and guidance on the health and environmental effects of non-ionizing radiation (NIR) to protect people and the environment.

**RECOMMENDATION:** That the report be noted

**Financial Implications:** None arising as a direct result of this report.

**Budget and Policy Framework:** None

**Legal Implications:** The Town and Country Planning (General Permitted Development) (England) Order 2015 and subsequent amendments sets out development that may take place under permitted development rights in accordance with a range of criteria. Schedule 2, Part 16 sets out permitted development rights insofar as they relate to electronic communications code operators under which equipment for 5G technology would be assessed in terms of whether planning permission is required.

**Risk Assessment:** None as a direct result of this report. Any application for planning permission is assessed against the policies in the development plan and other material considerations.

**Equality Impact Assessment:** No equality issues are identified in this report

**Impact on Climate Change:** Greater digital connectivity and data speeds offer the ability to work from home. As evidenced during the pandemic lockdown period, enhanced home working reduces work based transport movements and associated carbon emissions.

**Relationship to Corporate Plan:** The Corporate Plan seeks to capture the economic benefits associated with greater rural digital connectivity which 5G has potential to contribute to. A specific aim is to secure decent digital connectivity for all of Mid Devon.

## 1.0 INTRODUCTION

1.1 5G (fifth generation) is the next generation of mobile internet connection following on from 4G and seeks to provide faster data download and upload speeds. In addition 5G also offers lower latency (the time a network takes to respond to a request), thereby allowing for greater capacity for users.

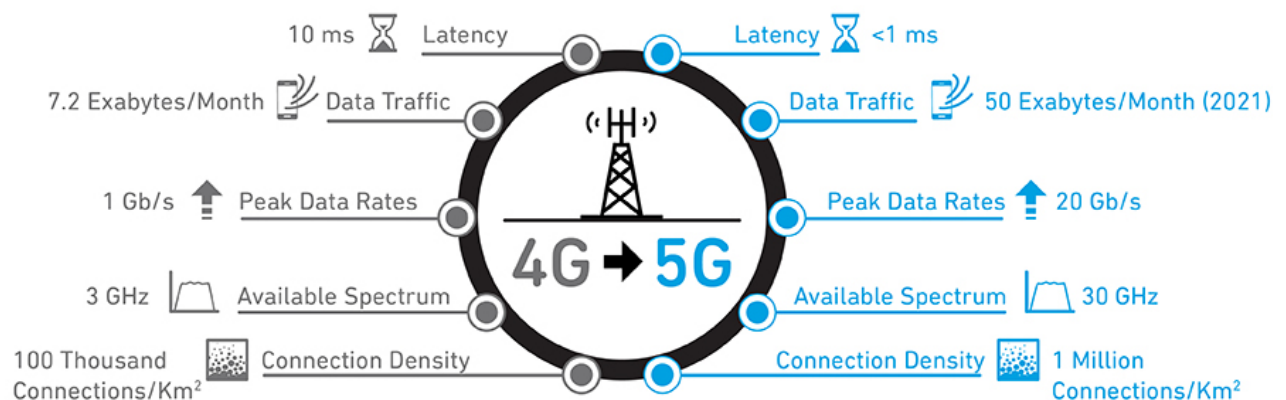
## 2.0 THE TECHNOLOGY

2.1 The fastest current 4G mobile networks offer in the region of 45Mbps (megabits per second), with an average of 20-40 Mbps. It is understood that 5G could offer the ability to achieve browsing and download speeds about 10 to 20 times faster in real-world (as opposed to laboratory) conditions. Speeds of 130-240 mbps are typically being currently achieved via 5G to date with the potential for considerably higher peak speeds.

2.2 5G is likely to initially be used by the network operators to boost capacity on their existing 4G core networks to ensure a more consistent service. 5G typically utilises a higher frequency part of the radio spectrum than 4G and will allow far more devices to access the mobile internet at the same time. This will provide more resilience against spectrum bands becoming congested, leading to breakdowns in service, particularly when lots of people in the same area are trying to access online mobile services at the same time. 5G is able to better handle thousands of devices simultaneously, from mobiles to equipment sensors, video cameras to smart street lights. 5G also offers the potential for advances such as real-time traffic management of fleets of autonomous vehicles, largescale sensor networks and 'tactile' internet transmitting a sense of touch in addition to audio and visual.

2.3 The following diagram seeks to compare 4G and 5G technologies in terms of latency, data traffic, peak data rates, available spectrum and connection density.

### Comparing 4G and 5G



### **3.0 NETWORK DEVELOPMENT**

- 3.1 Initial 5G coverage is currently proving to be primarily an urban service for densely populated areas. At the time of writing, the UK's four main networks (EE, Three, O2 and Vodafone) have all launched a 5G service. A number of MVNOs (mobile virtual network operators) have too, namely BT Mobile, Tesco Mobile, Sky Mobile and VOXI, but each rely on the coverage of one of the main networks.
- 3.2 Coverage on the main networks varies and is increasing rapidly. Most of the UK's major cities now have at least partial 5G coverage from at least one of the main networks and many have coverage from all. 5G is currently available in the centre of Bristol, Cardiff and Plymouth with applications having been received for the network infrastructure to deliver 5G within the centre of Exeter. Exactly when specific locations will gain 5G coverage is not known comprehensively, but it is clear that larger, urban areas are being prioritised.
- 3.3 4G networks utilise lower frequency bands, the signals being better at travelling longer distances. In comparison the higher frequency bands of 5G will mean signal coverage over shorter distances and is likely to necessitate clusters of smaller cells or phone masts closer to the ground in order to achieve higher density of use. More, smaller cells will require additional infrastructure to fill in the gaps between existing 4G provision. In many instances existing mobile phone infrastructure will be utilised or upgraded to support 5G.
- 3.4 Members will be well aware of the challenge of rural broadband provision including low data speeds and lack of signal leading to variable coverage. Previously the Mobile Network Operator's Association produced Annual Network Update Plans. These provided a summary by operator of site provision within the District and its status. For Mid Devon, the last annual roll-out plan from 14/15 indicated all sites for all operators as being built with no new sites or upgrade proposals identified. However so far, no indications have been given of any intention nor timescale to rollout 5G in Mid Devon, nor the extent of any new infrastructure that might be required.

### **4.0 PERMITTED DEVELOPMENT RIGHTS**

- 4.1 The Town and Country Planning (General Permitted Development) (England) Order 2015 (GDPO 2015) set out categories of development that subject to meeting a range of criteria or limitations may take place under permitted development rights without the specific grant of planning permission. Schedule 2, Part 16 sets out permitted development rights insofar as they relate to electronic communications code operators.
- 4.2 In England, telecommunications operators are able to install new ground-based infrastructure such as telegraph poles and mobile phone masts under permitted development rights, subject to various size limits. In some instances these permitted development rights would allow for the erection of a mast up to 25 metres high. Within conservation areas and areas of outstanding natural beauty this reduces to 20 metres in height. Separate limitations are set out for apparatus to be installed on existing buildings or structures. These rights are

subject to a prior approval process (except for infrastructure relating to fixed-line broadband) under which the local planning authority can consider the proposed siting and appearance of the infrastructure.

4.3 Prior approval decisions must be issued within 56 days of receipt, after which deemed consent is granted unless the local planning authority notifies of approval or refusal.

4.4 Most proposals for telecommunication equipment are considered under prior notification procedures where only the proposed siting and appearance are able to be taken into account. In the past few years we have received several such prior notifications for 15 metre high masts and associated equipment cabinets in the western part of the district. None of these were for 5G.

## 5.0 PLANNING POLICY AND GUIDANCE

5.1 Infrastructure not covered by permitted development rights will require full planning permission. Such applications are assessed against policies set out in the development plan and any other material planning considerations.

5.2 Policy references within this report are based on the Local Plan Review. Members will be aware of the conclusion of the examination process, subsequent main modifications and that the Inspector's report is expected imminently. Policy S1 'Sustainable development priorities' of the Local Plan Review includes the following:

*The following strategic priorities outline what will need to be achieved to deliver the Vision and address the key issues that have been identified in Mid Devon. All development will be expected to support the creation of sustainable communities by:*

*f) Supporting high quality communications infrastructure by supporting the expansion of telecommunications and high speed broadband throughout Mid Devon;*

Policy S14 'Countryside' includes:

*Development outside the settlements defined by Policies S10-S13 will preserve and where possible enhance the character, appearance and biodiversity of the countryside while promoting sustainable diversification of the rural economy. Detailed development management policies will permit agricultural and other appropriate rural uses, subject to the following criteria:*

*f) Renewable energy and telecommunications.*

5.3 Other policies deal with a range of issues including landscape character and appearance and heritage assets which may be relevant to the assessment of a telecommunications application.

5.4 The National Planning Policy Framework (NPPF) includes a section on supporting high quality communications and makes specific mention of 5G. Paragraphs 112 – 116 apply and emphasise the essential nature of advanced,

high quality and reliable communications infrastructure for economic growth and social well-being. It is made clear that planning policies and decisions should support the expansion of electronic communications networks, including next generation mobile technology (such as 5G) and full fibre broadband connections. Policies should set out how high quality digital infrastructure, is expected to be delivered and upgraded over time; and should prioritise full fibre connections to existing and new developments. The NPPF goes on to state that:

*‘113. The number of radio and electronic communications masts, and the sites for such installations, should be kept to a minimum consistent with the needs of consumers, the efficient operation of the network and providing reasonable capacity for future expansion. Use of existing masts, buildings and other structures for new electronic communications capability (including wireless) should be encouraged. Where new sites are required (such as for new 5G networks, or for connected transport and smart city applications), equipment should be sympathetically designed and camouflaged where appropriate.*

*114. Local planning authorities should not impose a ban on new electronic communications development in certain areas, impose blanket Article 4 directions over a wide area or a wide range of electronic communications development, or insist on minimum distances between new electronic communications development and existing development. They should ensure that:*

- a) they have evidence to demonstrate that electronic communications infrastructure is not expected to cause significant and irremediable interference with other electrical equipment, air traffic services or instrumentation operated in the national interest; and*
- b) they have considered the possibility of the construction of new buildings or other structures interfering with broadcast and electronic communications services.*

*115. Applications for electronic communications development (including applications for prior approval under the General Permitted Development Order) should be supported by the necessary evidence to justify the proposed development. This should include:*

- a) the outcome of consultations with organisations with an interest in the proposed development, in particular with the relevant body where a mast is to be installed near a school or college, or within a statutory safeguarding zone surrounding an aerodrome, technical site or military explosives storage area; and*
- b) for an addition to an existing mast or base station, a statement that self-certifies that the cumulative exposure, when operational, will not exceed International Commission guidelines on non-ionising radiation protection; or*
- c) for a new mast or base station, evidence that the applicant has explored the possibility of erecting antennas on an existing building, mast or other structure and a statement that self-certifies that, when operational, International Commission guidelines will be met.*

*116. Local planning authorities must determine applications on planning grounds only. They should not seek to prevent competition between different*

*operators, question the need for an electronic communications system, or set health safeguards different from the International Commission guidelines for public exposure.'*

## 6.0 CONCLUSIONS

- 6.1 To date there have not been any proposals to roll out the emerging 5G networks across Mid Devon. Instead the mobile networks have focussed upon urban locations such major towns and cities. Neither is there any indication at present as to the intentions of the major mobile networks for provision in Mid Devon.
- 6.2 In the event that 5G roll-out takes place, it is likely that existing telecommunication infrastructure in the district will be upgraded and adapted to carry 5G where possible, but additional new sites would be expected. These are unlikely to require full planning permission as experience has shown that the mobile network operators seek to utilise permitted development rights. In such cases the prior approval planning process would apply within which the local planning authority would consider proposed siting and appearance of the infrastructure.

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<b>Background papers:</b>	<a href="https://www.mobileuk.org/5g">https://www.mobileuk.org/5g</a> Local Plan Review <a href="https://www.middevon.gov.uk/residents/planning-policy/local-plan-review/">https://www.middevon.gov.uk/residents/planning-policy/local-plan-review/</a> National Planning Policy Framework <a href="https://www.gov.uk/government/publications/national-planning-policy-framework--2">https://www.gov.uk/government/publications/national-planning-policy-framework--2</a>
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