

SUPPLEMENTARY INFORMATION

1. Site Details

Site Name:	St Ann's Temp	Site Address:	Temporary telecommunications base station site St Anns Hospital St Ann's Road Haringey London N15 3TH
National Grid Reference:	532530, 188669		
Site Ref Number:	CS-30910100 VF-028689	Site Type: ¹	Macro

2. Pre-Application Check List

Site Selection

Was a local planning authority mast register available to check for suitable sites by the operator or the local planning authority?	Yes	No
If no explain why: Public access system checked		
Were industry site databases checked for suitable sites by the operator:	Yes	No
If no explain why:		

Site Specific Pre-application consultation with local planning authority

Was there pre-application contact:	Yes
Date of pre-application contact:	N/A
Name of contact:	N/A
Summary of outcome/Main issues raised: There is a significant planning history to this application, all of which has been outlined below in Section 3.	

¹ Macro or Micro

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Annual area wide information to planning authority

Has annual area wide information been provided?	No
Summary issues raised: Cornerstone's commercial relationship with the operator in question, i.e., VodafoneThree, has changed, effectively increasing an independence to work with other companies in the deployment of mobile infrastructure. It means Cornerstone no longer have visibility of the operator's full update plan. However, Cornerstone is fully committed to working closely with Local Planning Authorities and following best practice guidance. Cornerstone aim to engage and work with the planning department at the earliest opportunity from when instructed to deliver new infrastructure within your Local Authority area and often conduct strategic pre-rollout engagement meetings to discuss our wider rollout. If your Local Authority would like a meeting to discuss wider Cornerstone rollout plans, then please advise. We recognise the importance of developing long term partnerships and will always work with you to deliver improved mobile connectivity.	

Community Consultation

Rating of Site under Traffic Light Model:	Red	Amber	Green
Outline of consultation carried out: The following parties have been informed of this application: • Hermitage and Gardens Ward Councillors • Joanne McCartney, Enfield and Haringey London Assembly Member • David Lammy MP, Tottenham			
Summary of outcome/main issues raised (include copies of relevant correspondence): N/A			

School/College

Location of site in relation to school/college (include name of school/college): Chestnuts Primary School is located on La Rose Lane St Mary's Prior Infant and Junior School is located on Hermitage Road
Outline of consultation carried out with school/college (include evidence of consultation): These parties have been informed of this application
Summary of outcome/main issues raised (include copies of main correspondence): N/A

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Civil Aviation Authority/Secretary of State for Defence or the operator of the civil safeguarding area or defence safeguarding area notification (only required for an application for prior approval)

Will the proposed development be on a civil safeguarding area or a defence safeguarding area?	Yes	No
Has the Civil Aviation Authority/Secretary of State for Defence/operator of the civil safeguarding area or defence safeguarding area been notified?	Yes	No
Details of response: N/A		

Developer's Notice

Copy of Developer's Notice enclosed?	Yes	No
Date served:	31 July 2026	

3. Proposed Development

The proposed site:
The existing temporary base station is sited on a grassed area at the St Ann's Road entrance to the St Ann's Hospital complex, off St Ann's, west of Acacia House.



Fig. 1: Site Photo

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Enclose map showing the cell centre and adjoining cells if appropriate:

Background Information

Network services were previously supplied to the hospital and the local area via a site (VF 5744, planning reference HGY/2001/0153) located to the rear of St Ann's Hospital grounds. However, the landlord served a 'Notice to Quit' (NTQ) due to their plans for a residential development to the western side of the hospital.

To prevent a loss of services, a replacement site was identified at St Ann's Church to the east (84126vf / 66173o2). Due to the peripheral location, like for like coverage would not be possible but it was predicted that the level of service to the hospital area would be satisfactory. However, the NTQ site was fully decommissioned in July 2024 and once the replacement site in St Ann's Church was brought into operation it became very apparent to the operator via significant numbers of customer complaints coming directly from the NHS, (specifically from the doctors and nurses in the Hospital which treats mental health issues), that the level of service provided did not meet expectation and NGS staff were missing vital '*life or death*' calls from psychiatric patients in urgent need of medication.

Unfortunately, the replacement site at St Ann's Church only provides 'partial' network replacement with there now being an 'unserviceable' area within and around the hospital, which is not receiving sufficient mobile signal. Whilst there are limited Wi-Fi services in the hospital site, this is unreliable in certain buildings and areas in the grounds due to the sheer size and scale of the property and buildings therein.

Evidence of the inadequate network services and unsatisfactory customer experience is reflected in the Crowd Source Data provided below.

In August 2024, the NHS requested a meeting to agree a way of urgently rectifying the situation the result of which was the identification of an area of land just south of St Ann's Road and the use of emergency powers to deploy a Temp mast here. We would reiterate that this mast is a temporary solution to help ease a clear and identifiable emergency situation.

Concurrently Cornerstone and the operator began the process of finding a permanent replacement site that, along with the St Ann's Church, would provide a 2-part solution to network requirements in the wider locale and allowing the decommissioning of the Temp site. A number of options have been considered and whilst detailed assessment is ongoing, it is hoped that planning for this additional base station site will soon be submitted.

The proposed retention of the Temp mast will allow for this permanent base station to progress through the planning process and, assuming it is consented, to be built and brought into operation at which stage the Temp mast will be decommissioned.

Crowd Source Data

Cornerstone (and most industry experts) rely on Crowdsourcing Data to calculate the mobile signal strength in an area and accordingly measure and improve network performance objectively. Cornerstone gather Android 'Crowd Source' data via 3rd party providers. This is based on what is experienced by the actual end-users and not just a *predicted* reading but the **ACTUAL readings over the last 6 months**.

The map below shows the current signal strength over the last 6 months in the area surrounding the proposed site. This information below is actual collected data from phones (Android only, not Apple due to its privacy policies) that demonstrate **the actual strength of the signal**, rather than a prediction of where the signal should be available. The data showed that 154,000 uses of the Vodafone network were classed as 'poor' over the last 6 months.

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As can be seen by the graph below, only a very small proportion of phone uses were excellent. This data obviously misses the iPhone data (which in the UK represents approximately 49% of operating systems but gives a very good picture of the situation in this location). The area inside the current building site at the hospital has less 'data' collected as construction workers are less likely to be using their phone while actively working and would more likely leave the site to make a call. Hence, the surrounding streets show so many poor-quality calls. The section of the hospital that is still actively working clearly shows poor quality signal. The 'green' area to the north-west of the hospital shows 'good' mobile signal, which is achieved from the replacement site at St Ann's Church (which was the partial replacement to the original NTQ), although it can be seen that the site does not provide a signal to the full hospital grounds. This explains the significant objections from the NHS.



Fig. 2: Signal strength in and around the hospital buildings

One will note that this Crowdsense data records actual network usage and confirms that 7,000 phone uses were classed as 'poor', (i.e. dropped calls), in the last 6 months within the Hospital grounds alone. We would reiterate that this does not include iPhone data which, if included, is expected to double the figure to approximately 14,000 uses which could be classed a 'poor'.

How mobile networks operate

The reader may be aware that cellular networks are made up of a series of individual cell areas, each of which has a base station within it to provide service to that particular area. Each base station has a maximum capacity for traffic, (i.e., the number of handset users that can connect to it at any one time), and oversubscription by users will result in poor customer connection experience such as connection failures, dropped calls and a reduction in mobile broadband data speeds for both uplink and downlink. It is therefore imperative that adequate network infrastructure is in place to cope with demand.

A good analogy for describing a cellular network is that of a patchwork quilt with each cell area being one of the many patches that are sewn together making up the network 'quilt'. The base stations themselves will require a supporting structure, such as a mast or high building, to support antennas and dish and to elevate such transmission

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equipment above clutter, such as tall trees and buildings and whilst taking account of topography, all of which could impede signal, and to ensure ICNIRP compliance. Associated cabinets for housing radio equipment and power connections are also deployed to service the antennas.

Telecommunications base stations receive and transmit to mobile devices using radio waves. The antennas operate like an aerosol spray with signal transmitted along a central orientation and dissipating with distance. Transmission dish links (which are required where fibre connections are not available) operate on a direct line of sight basis, linking with dishes on other base station sites elsewhere within the wider network. The dish or fibre links also connect the base station to a master control centre that manages the call handover process that occurs when a mobile user moves from one cell area to another, whilst also providing telemetric monitoring to ensure the site is working properly and offer remote maintenance.

Mobile connectivity, service and capacity is required where customers live, work, travel and enjoy recreational time. In the early days of mobile communications, peripheral locations, high-level topographies and large-scale masts were often identified in order that transmission from a new base station could cover an expansive geographical area. However, whilst this approach was viable for early network generations, the number of mobile device users and the need for connectivity has dramatically increased with time, as have the advancements in mobile technology itself. Quite often it can be the case that although a degree of coverage is available in an area, demand exceeds the base station's capacity meaning that calls, text and data usage services are not available to all those wishing to use the network. As a result, the cellular network construction and operational criteria have changed over time too. Because modern networks use higher frequencies with faster data rates whilst serving significantly increased numbers of mobile device users, typical network cell areas (i.e., the geographical area targeted for coverage and capacity for which a base station development provides a solution), are now smaller in their geographical expanse and tend to be directly proportionate to the number of users within it. They are also, therefore, greater in their number with base stations operating at a lower power output than their predecessors.

It must be noted that in December 2021, the UK's MNOs confirmed to the Government (the Department for Digital, Culture, Media & Sport – DCMS) that they will not offer 2G or 3G services beyond 2033. Doing so will free up spectrum for 4G and 5G networks, enabling customers to benefit from better, faster and more reliable services. The 2G and 3G networks rely on older technology and transitioning them to newer 4G and 5G services involves increased operating costs, as well as a less efficient use of spectrum and energy.

It is critical to understand that the historical 4No. UK MNOs all utilise different technology spectrums to provide their mobile service. The spectrums the Operators utilise are allocated by Ofcom, as industry regulators on behalf of UK Government, through licence agreements with each of the individual MNOs. As such, each MNO must utilise the spectrum licenced to them. Each part of the radio frequency spectrum has variations in terms of frequency propagation. Therefore, each individual MNO's network, and their sharing arrangements, cannot be compared directly and there will be variations in how each of these networks is deployed and developed. For this reason, all MNOs, have a completely different network configuration that they need to fit within and build 5G service around. Therefore, the networks must be built differently, involve taller heights to overcome ICNIRP exclusion requirements, with different antennas and equipment, to take account of those spectrum and licence variations. This will in turn lead to necessary infrastructure variations on a cell-to-cell basis, depending on site specific demand, local constraints and requirement. As such, the individual networks will have variations in how their infrastructure is deployed and developed.

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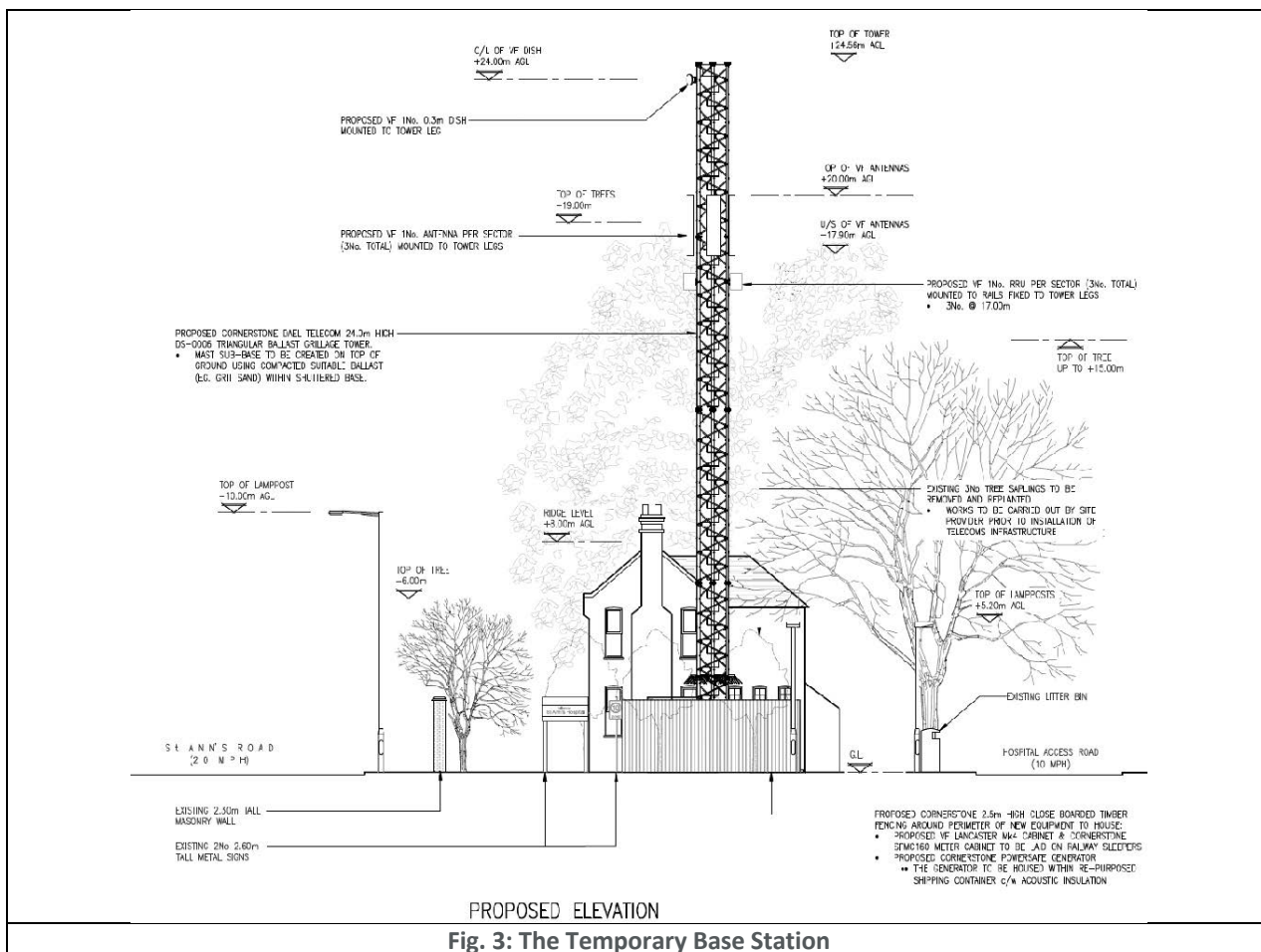
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Type of Structure (e.g. tower, mast, etc):

Description:

The temporary base station includes the following:

- 24.56m lattice mast (galvanised grey steel)
- 3No. antennas (RAL7035 Grey)
- 1No. 300mm dish (RAL7035 Grey)
- 2No. cabinets (RAL7035 Grey)
- 1No. generator with housing
- 2.5m close board timber fence
- Concrete base pads
- Grillage
- All ancillary development

Consent is being sought for the temporary base station to be retained onsite for a period of 18months.

All apparatus has been limited to a minimum amount and dimension for the purpose of addressing the operational brief.

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Overall Height:	
Height of existing building:	As per plans/above
Equipment Housing:	
Length:	As per plans/above
Width:	As per plans/above
Height:	As per plans/above
Materials:	
Tower/mast etc – type of material and external colour:	As per plans/above
Equipment housing – type of material and external colour:	As per plans/above

Reasons for choice of design, making reference to pre-application responses:

The design of any communications infrastructure is dictated primarily by operational requirements and secondly by the development's setting. From an operational perspective, the operator must ensure the following when devising a design solution for any site:

Antennas

- Need to be located at a height to transmit effectively and efficiently without signal being impeded by surrounding manmade and natural features within the landscape, known as clutter. Because 5G technologies operate in higher frequency bands than older technologies, attenuation of the radio signal is naturally higher and more prone to the effects of clutter. This means that operators will often require a higher structure or antenna position to achieve the same degree of coverage footprint as preceding generations.
- Where possible, the antennas should also be tilted and orientated according to bespoke need and to maximise coverage, allowing them to best 'see' their target area.
- They must be located at a height and in a position to ensure ICNIRP certification, which establishes a public exclusion zone for areas around the antennas.
- If a shared solution is being proposed, then the antennas also need to be appropriately separated to prevent interference between the operating systems.

Dish links

- If required, these need to achieve a direct line of sight with other base station sites within the wider network. They are a backhaul solution and sometimes called microwave or transmission dishes, in which much like antennas they need to be positioned at height and orientated to see the neighbouring dish that it is intended to link with.

Cabinets

- Required to house the equipment that allow the antennas to function, these need to be located at the base of the mast to allow the feeder cables to run up the mast to serve the antennas. Seen on their own merits equipment cabinets and meter pillars are permitted development (only if they do not exceed 2.5m³ each) that don't require a formal planning determination and are likened to cabinets deployed by utility companies throughout the UK.

The base station in question is of standard design given that is a temporary solution to be deployed in any setting. It is a non-ground intrusive solution made up of movable structures and elements that require no foundations.

A generator had initially been deployed as a power source. However, a grid connection has now been established to power the site.

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Health and Safety - including ICNIRP compliance

International Commission on Non-Ionizing Radiation Protection Declaration has been attached.

International Commission on Non-Ionizing Radiation Protection public compliance is determined by mathematical calculation and implemented by careful location of antennas, access restrictions and/or barriers and signage as necessary. Members of the public cannot unknowingly enter areas close to the antennas where exposure may exceed the relevant guidelines.

When determining compliance, the emissions from all mobile phone network operators on or near to the site are taken into account.

In order to minimise interference within its own network and with other radio networks, the lead operator in this development:

- VodafoneThree

Operate their network in such a way the radio frequency power outputs are kept to the lowest levels commensurate with effective service provision.

As part of their network, the radio base station that is the subject of this application will be configured to operate in this way.

All operators of radio transmitters are under a legal obligation to operate those transmitters in accordance with the conditions of their licence. Operation of the transmitter in accordance with the conditions of the licence fulfils the legal obligations in respect of interference to other radio systems, other electrical equipment, instrumentation, or air traffic systems. The conditions of the licence are mandated by Ofcom, an agency of national government, who are responsible for the regulation of the civilian radio spectrum. The remit of Ofcom also includes investigation and remedy of any reported significant interference.

The telecommunications infrastructure the subject of this application accords with all relevant legislation and as such will not cause significant and irremediable interference with other electrical equipment, air traffic services or instrumentation operated in the national interest.

4. Technical Justification

Reason(s) why site required e.g. coverage, upgrade, capacity

The Operational Brief

As indicated above, the development that forms the basis of this application has been devised by Cornerstone, on behalf of VodafoneThree to provide temporary, replacement multigenerational network coverage and capacity solution to the benefit of network users that live, work and travel in St Ann's Hospital area.

Please note that Cornerstone and the operator would not be choosing to deploy such a base station site unless it were the only means of addressing their urgent network requirements.

Who will be benefit from improved coverage and capacity?

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In considering the merits of this proposal for essential infrastructure, it is important to give due cognisance to those that are being impacted upon by the current lack of UpToDate coverage and adequate network capacity and will continue to be impacted upon if the operational brief is not fulfilled.

According to recent figures published by MobileUK² it was estimated that there are 87 million active mobile subscriptions in the UK and according to recent figures produced by www.which.co.uk³ in an article titled 'Best and Worst UK mobile networks', the customer base of the operator is as follows:

- Vodafone currently have approximately 17.5 million customers (approx. 20% of the market)
- Three currently have approximately 9.9 million customers (approx. 11% of the market)

Based on these figures, one can assume that approximately 31% of mobile network users in the local area would benefit from the proposal. It should, however, be noted that these figures do not include customers who use each of the operators' Mobile Virtual Network Operators (MVNOs)⁴. Most MVNOs do not publicly release subscriber counts but those that will benefit from the proposal include the following:

- Vodafone's MVNOs: Asda Mobile, Lebara, Talkmobile and Voxi
- Three's MVNOs: iD Mobile, Smarty and Superdrug Mobile

How people in the UK are using mobile communications networks

The 'Online Nation Report 2025'⁵ produced by Ofcom and published in December 2025, confirms the following:

- UK adults spend an average of 4 hours 30 minutes a day online
- Smartphones accounted for the majority of online time for both genders (men: 75%; women: 79%).

Not everyone, especially those in more rural or lower income areas, has access to fixed broadband, so many rely on smart devices to get online. Because mobile connectivity is now essential to daily life, inadequate mobile infrastructure can prevent users from accessing vital digital services. If these gaps persist, the Government's wider digital goals will not be achieved.

Demand and Expectation

The dynamic nature of technological advances in the telecommunications industry coupled with ever increasing demand from subscribers dictates a continual reinvestment programme on the part of licenced operators and as a result, and in line with their licence requirements, companies such as Cornerstone are constantly developing, refining and modernising mobile network infrastructure.

To set the scene on the growing demand for effective communications networks over recent years we would refer the reader to the following Ofcom publications. One would first draw attention to an Ofcom discussion paper publication entitled 'Mobile Networks and Spectrum', dated 09 February 2022⁶, which considers the future demand for mobile services encouraging longer-term thinking about spectrum for mobile networks and how consumer and

² <https://www.mobileuk.org/mobile-facts>

³ <https://www.which.co.uk/reviews/mobile-phone-providers/article/mobile-phone-provider-reviews/best-mobile-networks-overview-amhDx1F0z41t>

⁴ MVNOs are providers that offer mobile services without their own signal or infrastructure, i.e., they piggyback on one of the four major networks, i.e., those listed above and EE

⁵ <https://www.ofcom.org.uk/siteassets/resources/documents/research-and-data/online-research/online-nation/2025/online-nations-report-2025.pdf?v=409837>

⁶ https://www.ofcom.org.uk/data/assets/pdf_file/0017/232082/mobile-spectrum-demand-discussion-paper.pdf

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business needs can be met. Section 2 of the paper includes the following information under the subheading 'The growth of mobile':

"In recent years we have seen an average 40% year-on-year growth in demand for mobile services provided over public mobile networks. This growth has been driven by the development of new applications and enabled by evolving technologies and consequent changes in consumer behaviour.

We expect demand for mobile data will continue to grow as we rely on it ever more to carry out daily activities like shopping, gaming, banking and watching movies. Demand is likely to be stimulated further as new and more sophisticated applications are developed, and by the development of machine-to-machine and machine-to-device applications."

Paragraphs 2.6-2.7

In publishing the discussion paper, Ofcom welcomed stakeholder inputs on the initial thinking, including on the potential opportunities and challenges associated with network densification in the UK and whether there are opportunities for more spectrum to be made available for mobile use on a local basis, so that they may then develop a future strategy for mobile spectrum.

Following on from the above, a conclusions paper has since been published by Ofcom on 06 December 2022, entitled 'Ofcom's future approach to mobile markets and spectrum', within which Section 1 'Overview' confirms:

"We expect demand for mobile data to continue to grow as greater use is made of data-hungry services and as new technologies enable new uses."

Paragraph 1.1

And continues under the subheading 'Our future approach':

"Network quality is likely to be of growing importance to customers."

So, there should be no doubt that there is a customer expectation and Ofcom requirement for continued investment by operators to ensure they accommodate ever-increasing customer demands with network quality and improvement where necessary.

Public Benefit

It is undeniable that mobile communication is now a key part of sustainable development and a vital tool in our personal lives and in both business activities and government operations. Indeed, the demand for faster and improved mobile connectivity continues to grow with modern society now expecting to be able to make use of mobile devices to their full potential where people live, work and travel. Each new generation of mobile communications technology has provided us with higher speed, better connection, and many more advanced features on our mobiles, and now with 5G, we can expect to experience an even more extensive range of telecommunication services. There is, therefore, a drive by the Government to ensure that all communities, both urban and rural, have access to the most up to date mobile technology, given the clear sustainability, social and economic benefits for doing so. Indeed, the Government in Westminster has indicated that further reforms will take place to streamline the delivery process for critical infrastructure, which includes telecommunications, as outlined in their 2024-25 agenda via the King's speech on 17 July 2024.

⁷ https://www.ofcom.org.uk/data/assets/pdf_file/0036/248769/conclusions-mobile-spectrum-demand-and-markets.pdf

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Good connectivity allows people to access a wide range of essential services and a further explanation on some of these key benefits is provided below:

- Economic benefits
 - Creating more productive and cost efficiencies for businesses
 - Businesses offering online services can extend their products to a broader audience
 - Local areas and businesses can benefit from tourists and visitors as hotels, attractions, and restaurants can be booked online from anywhere in the world
 - Business owners and services like doctors can provide a faster and more cost-effective service by offering both online appointments and ordering
 - Digital connectivity facilitates economic growth, something which the Government is keen to progress and promote
 - 5G's ability to deliver real-time information (low latency), ultra-fast speeds (critical for high-definition images and video), increased capacity and heightened security will also facilitate learning on the job procedures, thanks to technologies such as Augmented Reality (AR) goggles, which, for example, can give the likes of engineers real-time instructions on how to fix a machine on a production line.
- Social benefit
 - Mobile communications can help people to stay in touch wherever and whenever, which can help improve social wellbeing
 - Convenient access to online commerce or businesses
 - Contacting emergency services is easier, especially in remote areas
 - Giving the ability to manage our personal finances and information 24/7
 - Using a mobile wherever you go can provide better personal security
 - Having access to social networking sites and applications can keep people entertained with their lifestyles and interests
 - Access to real-time transport information or timetables
 - Smart meter reads for utilities such as gas or electric
 - Contacting local authorities
 - Promotion of smarter and productive ways of working. For example, working from home can help minimise commuting which can provide better work and home life balance
- Sustainability and Environmental benefits
 - Facilitating remote access to services, education, and commerce, reducing the need to travel and in turn minimising carbon emissions.
 - Better monitoring and control of energy consumption through climate change technology, smart metering and smart energy grids.
 - 5G infrastructure requires fewer heat generating electronic components.
 - 5G enabling of the Internet of Things (IOT) sensor deployment can manage and alert us to pollution risks, health hazards and flood risk.
 - Provision of smart technologies within the agricultural sector will facilitate more efficient and less wasteful practices helping to limit negative impacts.
 - 5G networks allow monitoring of traffic flow resulting in less congestion and better air quality. They also make driverless cars possible; a means of transport that offers better fuel efficiency.
 - Smart cities and buildings can rely upon 5G networks to enable buildings and infrastructure to use automated energy saving through better and more efficient lighting, heating, cooling and other operations.
- Health benefits

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- Support the delivery of healthcare provision and accessibility by enabling people greater access to online services, NHS appointment reminders, reminders to take medicines, make appointments etc.
 - Patients across the country are now becoming accustomed to using remote healthcare services such as NHS 111, virtual GP appointments, and ordering online deliveries of essential medical supplies.
 - 5G's ability to deliver real-time information (low latency), ultra-fast speeds (critical for high-definition images and video), increased capacity and heightened security are going to be fundamental in scaling the patient benefits of remote healthcare and keeping medical records secure and private. For instance, trials have shown that connecting ambulance crews to expert resources using 5G allows paramedics to work with doctors and conduct specialist procedures in real time whilst on the road.
- Education benefits
 - Facilitates access to educational establishment databases or booking systems for securing places for the likes of school dinners, field trips, extra-curricular activities, student/teacher reviews, etc.
 - Provides access to school/college/university apps for setting and submitting homework/coursework, ensuring news and notifications are delivered efficiently, and for parent/student/teacher interactions.
 - The relationship between 5G and education is evolving at a massive rate with educators exploring the relevance of Virtual Reality (VR) technologies for education and training. Crucially, VR can support remote learning, allowing students a presence in the classroom even when working elsewhere.

5. Site Selection Process

Alternative sites considered and not chosen (not generally required for **upgrades/alterations to existing sites** including redevelopment of an existing site to facilitate an upgrade or sharing with another operator)

Site	Name/Address	NGR	Reason for discounting
	N/A	N/A	N/A

As indicated above, the site in question was identified for use with the assistance of the NHS Trust. The intent is that it be used on a temporary basis to resolve an urgent network issue. A detailed site search has not therefore been undertaken

Additional relevant information (include planning policy and material considerations):

Government Ambition and Legislative Reforms

It is important to consider this proposal in a wider context of National and Local Government ambition which clearly recognises the benefits that modern communications networks bring.

- **UK Government Resilience Action Plan, published July 2025⁸**

⁸ <https://www.gov.uk/government/publications/uk-government-resilience-action-plan>

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This publication includes reference to telecommunications as part of the Government's 'Critical Network Infrastructure' (CNI) stating that:

"The resilience of the UK's CNI is of central importance to ensuring that the essential services the public rely on continue to operate. Given the fundamental and connected nature of these services, failure has the potential to cause cascading and catastrophic consequences. This could be, for example, power outages impacting other essential functions, like transport or water provision, or a failure in the telecoms or data infrastructure sectors impacting the energy sector - across all four nations."

Paragraph 57

It also confirms that:

"...Telecoms is part of our CNI and underpins many, if not all, economic sectors..."

- **UK Infrastructure: A 10 Year Strategy⁹**

Published in June 2025, and Presented to Parliament by the Chief Secretary to the Treasury by Command of His Majesty, the Strategy highlights the benefits of effective digital technologies in 'Chapter 3: Unlocking growth across regions' under the subheading 'Digital infrastructure for growth and innovation':

"Digital infrastructure supports productivity growth through lowering costs for firms, underpinning technological change, widening access to labour markets across the country and enabling new and innovative services to be provided."

Digital infrastructure also increasingly underpins the provision of services critical for the functioning of society, business, and government – including the operation of other infrastructure sectors. In particular, demand for data centre services is projected to surge over the next decade including for AI development and deployment. The government is committed to facilitating the development and expansion of cutting-edge, secure, and sustainable digital infrastructure that meets the needs of both the private and public sectors."

- **Labour Manifesto¹⁰**

The Manifesto included a section entitled 'Kickstart economic growth' within which the subsection 'Economic Infrastructure' referenced their views on modern communications as follows:

"In an ever more connected world, Britain's communication network is also vital. Under the Conservatives, investment in 5G is falling behind other countries and the rollout of gigabit broadband has been slow. Labour will make a renewed push to fulfil the ambition of full gigabit and national 5G coverage by 2030."

- **UK Wireless Infrastructure Strategy¹¹**

The Strategy recognises the benefits that effective connectivity has brought to British households and business by boosting growth, productivity, and opportunity for all. Advanced wireless connectivity is heralded as the foundation on which to build industry, employment, skills and services for the future with 5G identified as being key to driving industry growth and improving public services and transport. Improving digital connectivity is also one of the

⁹ <https://www.gov.uk/government/publications/uk-infrastructure-a-10-year-strategy>

¹⁰ <https://labour.org.uk/updates/stories/labour-manifesto-2024-sign-up/>

¹¹ <https://www.gov.uk/government/publications/uk-wireless-infrastructure-strategy/uk-wireless-infrastructure-strategy>

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government's Levelling Up Missions and aims for all places and communities across the UK to share in the benefits of good connectivity, enriching lives and driving local growth.

The document references the Prime Minister's 5 priorities for this government, i.e., to build a better, more secure, more prosperous future for the UK, including growing the economy, and creating better-paid jobs and opportunity right across the country, which this strategy is focused on delivering.

Chapter 5 of the Strategy deals specifically with 'Realising the benefits of 5G and advanced wireless connectivity' and states:

"5G and other forms of advanced wireless connectivity pave the way for new services and applications that can have a transformative effect on our public services, businesses and our local economies, delivering this government's priority of growing the economy and creating better paid jobs. Wireless connectivity can support mobile healthcare workers and connected vehicles, improve traffic flow through our cities and enable our factories to be more productive, supporting the fourth industrial revolution. Our evidence is clear that the most significant economic benefits from 5G will come from widespread adoption of advanced 5G by industrial sectors, including manufacturing and logistics, and by public services.

The government is determined that the UK should take full advantage of these opportunities...

We are therefore providing the framework to ensure that people, businesses and public services across the UK are able realise the full benefits of 5G and advanced wireless connectivity as soon as possible."

With regards to facilitating better connectivity at a local and regional level, Chapter 5 references the need for 'Local Leadership and Coordination' stating:

"Local leadership can help to identify and break down barriers to deployment at a local level by bringing together stakeholders across the public sector and building strong relationships with industry. The installation of telecoms infrastructure involves a number of different local government departments (such as planning, estates, highways) and their activities can be siloed and uncoordinated.

It is essential that, at a leadership level, local and regional authorities recognise the importance of wireless connectivity and identify decision-makers within the organisation who are empowered to facilitate private sector investment. By articulating the benefits of wireless infrastructure and connectivity and linking these to digital inclusion (and, in turn, tying these into local authorities' wider regeneration and growth or 'place' strategies) it can be viewed as an inward investment opportunity for places across the UK."

- **Ofcom Connected Nations Report 2025¹²**

The annual Connected Nations report measures progress on the availability of broadband and mobile services across the UK, including the newest full fibre, fixed wireless access and 5G networks now being rolled out.

The Report's section entitled 'Overview' confirms the following in relation to 5G coverage and data use:

- Mobile coverage continues to increase, with UK 5G coverage outside of premises from at least one operator now ranging between 94% and 97%...
- Mobile data use continues to rise, increasing by 18% over the past year...
- 5G traffic saw the largest growth...

¹² <https://www.ofcom.org.uk/phones-and-broadband/coverage-and-speeds/connected-nations-20252>

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- 4G remains the dominant mobile technology...

The Report's section entitled 'Mobile, data and voice' confirms that mobile connectivity plays a vital role in how people across the UK access services, communicate and stay connected and states the following under the subheading 'Highlights':

- **"5G Standalone (5G SA) is now available across 83% of areas outside of premises in the UK, based on our High Confidence levels. This newer form of 5G is being rolled out alongside existing 5G non-standalone (5G NSA) services.**
- **Overall 5G coverage, which includes both 5G SA and 5G NSA, continues to expand. 5G coverage outside of premises from at least one MNO now ranges between 94% and 97%, based on our Very High and High Confidence levels. Individual MNOs report 5G coverage outside of premises of between 64% and 89%, at our High Confidence level.**
- **4G coverage from at least one MNO now reaches 96% of the UK geographic landmass and extends beyond 99% of UK premises. 4G continues to carry the largest share of mobile data traffic, accounting for 72% of the total monthly mobile data traffic. While it remains the most used mobile technology, its share is gradually declining, down by 6 percentage points from 2024, indicating a shift towards 5G.**
- **Monthly mobile data traffic increased by 18% over the past year to 1,257 petabytes (PB), a growth rate broadly consistent with the previous year.**
- **5G traffic saw the largest growth, rising from 227 PB to 348 PB, an increase of 53%. Notably, 5G SA now accounts for approximately 31% of total 5G traffic, representing around 9% of overall mobile data traffic. This reflects a widespread transition by MNOs from NSA to SA networks.**
- **The transition away from older mobile technologies continues. We expect all MNOs will have completed their 3G switch-off by the end of the year. All MNOs have committed to retiring their 2G networks by 2033 at the latest.**
- **The number of direct customers relying on 2G or 3G-only devices is approximately 2 million, broadly similar to the 2.1 million reported in 2024."**

- UK Digital Strategy Policy Paper¹³

The UK Government's Policy Paper was updated on 04 October 2022, within which 'Section 1 Digital Foundations' reiterates that digital infrastructure plays a vital role in the daily lives of modern society and is the foundation of a thriving digital economy. The Strategy confirms that every part of the UK needs world-class, secure digital infrastructure that enables people to access the connectivity and services they need, where they live, work or travel, and clearly states the ambition to supply the majority of the UK's population with access to 5G by 2027. The Strategy also highlights the fact that enhancing digital connectivity is 'Mission 4' of the Government's Levelling Up White Paper¹⁴.

- The Town and Country Planning (General Permitted Development) (England) (Amendment) Order 2022¹⁵

¹³ <https://www.gov.uk/government/publications/uks-digital-strategy/uk-digital-strategy>

¹⁴ <https://www.gov.uk/government/publications/levelling-up-the-united-kingdom>

¹⁵ <https://www.legislation.gov.uk/uksi/2022/278/contents/made>

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The reader will be aware that amended planning legislation was introduced on 04 April 2022 in the form of the above, which saw a relaxing of planning laws to facilitate Government ambition for all to have access to effective and UpToDate mobile communications services in recognition for the benefits that modern communications networks bring.

The 'Explanatory Memorandum' that accompanied this amendment confirms that:

"Permitted development rights have an important role to play in the planning system. They provide a more streamlined planning process with greater planning certainty, while at the same time allowing the local consideration of key planning matters through a light-touch prior approval process.

Policy Background, What is being done and why? Paragraph 7.1

It is essential that the planning system continues to effectively support the deployment of new mobile network infrastructure. The changes will provide Code Operators with flexibility to upgrade existing sites in England for 5G delivery, enhance coverage and meet growing demands for network capacity. They will also reduce the time, cost and uncertainty involved in upgrading mobile network infrastructure and encourage the use of existing infrastructure and promote site sharing to reduce the impacts of new deployment.

Policy Background, What is being done and why? Paragraph 7.3

Article 3(2)(a) of this Order alters the height limits for the deployment of new groundbased masts through permitted development rights. These changes permit the installation of new ground-based masts of up to 30 metres in height on unprotected land, and up to 25 metres on Article 2(3) land.¹⁶ In both cases Code Operators would need prior approval from the local planning authority. These changes will reduce the number of new ground-based masts needed and will particularly support deployment of the Shared Rural Network, a programme to increase mobile network coverage throughout the UK.

New ground-based masts, Paragraph 7.16

- **Future Telecoms Infrastructure Review (FTR)¹⁷**

In 2018, the Department for Digital, Culture, Media and Sport published the FTR, outlining the Government's intent on being the best place to start and grow digital business with the aim of providing the majority of the population with 5G coverage by 2027. The FTR made it clear that 5G networks will deliver faster and better mobile broadband data services to consumers and businesses and will enable innovative new services for industry sectors, including manufacturing, transport, immersive technologies and healthcare.

- **The Electronic Communications Code 2017¹⁸**

Government ambition and recognition for the benefits that modern communications networks bring is also clearly evident in the publication of this document which has made it easier for network operators to install and maintain apparatus, such as phone masts, exchanges and cabinets, on public and private land with Part 4, Paragraph 20, providing a mechanism for the courts to impose terms of occupation on a landowner and the Operator or infrastructure provider. Further amendments to this Code are imminent, to help streamline the acquisition process and clarify relationships between infrastructure providers and site owners.

Regional government ambition

¹⁶ Please note that A1(1)(c) of the GPDO also limits the height of new ground based masts on highways land to 25m

¹⁷ <https://www.gov.uk/government/publications/future-telecoms-infrastructure-review>

¹⁸ <https://www.ofcom.org.uk/phones-telecoms-and-internet/information-for-industry/policy/electronic-comm-code>

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- **London Infrastructure Framework, March 2026¹⁹**

The London Infrastructure Framework (LIF) is a collaboration between the Mayor of London and London Councils. It establishes a shared long-term vision for London's critical economic infrastructure priorities through to 2050. The document is a key one-year commitment of the London Growth Plan.

The main aim of the LIF is to provide a single pan-London view of the critical economic infrastructure required across the following sectors:

- Transport
- Energy
- Water, wastewater and flood risk
- Waste
- Digital connectivity

It is designed to offer governments, regulators, utilities, investors and boroughs a shared view of London's infrastructure pipeline and priorities and closely aligns with wider developments across the infrastructure sector, including the 10-year National Infrastructure Strategy and the UK Infrastructure Pipeline led by the National Infrastructure and Service Transformation Authority (NISTA)

With regards to Digital Connectivity, the Framework states:

"Digital infrastructure keeps the city connected and competitive, and underpins London's economy by enabling businesses, public services and communities to function at Digital pace."

Looking to 2050, London must:

- *Extend gigabit coverage*
- *Accelerate universal 5G*
- *Secure resilient power and connectivity for data intensive growth area and data centres*
- *Close the digital divide so every household and firm benefit"*

The Framework identifies the following wireless infrastructure trends:

"Rising demand – Mobile data demand in London is set to rise sharply, with usage forecast to increase fourteen-fold by 2035²², while current investment plans will only increase by six-fold. This, combined with the removal of Huawei 5G equipment, indicates there is a significant gap in upgrade requirements across mobile networks."

Delivery models – The TfL–Boldyn long-term partnership to offer connectivity across the tube network also represents an emerging delivery model supporting innovative public-private partnerships."

Assistive and Monitoring Technology – Technology requires a reliable digital connection to improve quality of life, decrease the requirement on public services, lower carbon emissions, and improve outcomes."

And also the following wireless infrastructure challenges:

¹⁹ <https://www.london.gov.uk/programmes-strategies/business-and-economy/mayors-priorities-londons-economy-and-business/london-growth-plan/london-infrastructure-framework>

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“User experience gap – A large share of Londoners report poor user experience indoors and in busy places, and independent benchmarking shows 5G performance lagging other major European and UK cities.

Planning friction – Approval rates for mobile infrastructure remain low, with refusals frequently citing visual impact and heritage/design concerns.

Site loss – Notice to Quit²⁴ on rooftop phone masts linked to redevelopment, and subsequent difficulties in identifying and agreeing replacement locations with site providers, is eroding capacity and creating localised coverage gaps.

Slow take up of small cell sites – While neutral host operators have secured agreements to deploy small cells (mini masts) on street furniture in busy places with poor network capacity, take up of these locations by operators has been slow.”

- **London Growth Plan 2025²⁰**

This plan has been developed jointly by the City Hall and London Councils and is London’s 10-year ambition for growth and the actions needed to make it happen.

The plan highlights that the plan should make numerous positive changes including, that Londoners should benefit from better digital connectivity at home, for work and on the move. This can be done by encouraging investment in fibre and mobile infrastructure.

Kingston is identified as one of the regionally significant office clusters outside the city centre, highlighting the importance of improving digital connectivity in the Borough.

This growth plan does not describe digital or technology as a sector because it is now mainstream across the global city sectors. Internet, mobile, cloud and increasingly AI are everyday technologies in London. They are transforming legacy businesses and enabling new ones.

Improving internet access across the city will support productivity, better public services and safer local places. For example, SMEs are missing out on an estimated £28bn in annual revenue due to slow and unreliable workplace broadband. Installing full fibre broadband allows the city to expand CCTV coverage and install sensors to monitor traffic congestion and air quality. London will continue to expand full fibre, improve capacity in mobile networks to boost 5G coverage and make Wi-Fi access easier, by working in partnership with industry.

London has some world-class infrastructure, but some of it is creaking and not ready for growth – particularly the power grid. We need transport, logistics, low-carbon energy, clean water, waste and digital connectivity infrastructure that is designed for the future and climate resilient.

Other

- **Times Article, Prime Minister Comments**

On 05 December 2024, the Prime Minister, Sir Keir Starmer, was quoted in an article in The Times, confirming that housing needs to be supported by good infrastructure, stating:

“Every road, pylon and mast – which connect people with opportunity – must jump through endless hoops, only to be opposed, dragged out, before eventually, if lucky, approved...”

²⁰ <https://growthplan.london/>

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- **Department for Science, Innovation & Technology's Minister of State letter to Council Leaders**

On 29 November 2024, the Minister of State, Chris Bryant MP, wrote a letter to Council Leaders, urging support for digital infrastructure deployment and collaboration with mobile network operators, stating:

"The Government is committed to supporting the delivery of next-generation connectivity to communities across the UK by driving towards nationwide gigabit broadband and 5G coverage by 2030.

We need your help to achieve these goals. Broadband and mobile rollout rely heavily on local authorities prioritising digital infrastructure and placing it at the heart of their wider Place strategy. I am writing to you today to highlight a number of areas that remain a challenge, and how they can be approached to boost telecoms investment in your area."

Summary

Each of the above demonstrates the governmental recognition of the increasing importance of reliable connectivity now and in the future and they set the scene in which Decision Makers must determine telecommunications applications, particularly in areas where coverage and capacity issues are being experienced, as is the case in this instance.

It is also clear from the above that the preceding and current UK Governments have both placed an onus on Planning system reform to drive the economy with the 2022 revision to the GPDO having relaxed planning laws and increased permitted development rights in favour of the roll out of digital infrastructure, helping to facilitate access to effective communications networks for all.

The 2024 revision to the NPPF then also explicitly references Digital Infrastructure in the chapter related to 'Building a Strong, Competitive, Economy' and one will also note that the publication of the 10 Year Strategy commits to a 'Call for Evidence' on legislation related to streamlining the delivery of digital infrastructure, given the socio-economic benefits attached.

Part of the above call for evidence is the publication on 18 December 2025 consultation on 'Reforming planning rules to accelerate deployment of digital infrastructure'. The consultation seeks evidence and views from stakeholders to inform decisions on whether, and how, to reform specific planning rules and update policy guidance so that digital infrastructure can be delivered more quickly, to help improve coverage nationwide, so that communities up and down the country can enjoy the benefits that connectivity can bring.

The consultation reiterates that delivering high-quality digital infrastructure is essential to the UK's growth, productivity and the resilience of public services. It notes that the adoption of 5G across key sectors could unlock between billions of pounds in additional Gross Value Added annually by 2035 and highlights that reliable fixed and mobile connectivity underpins innovation across sectors—from advanced manufacturing and logistics to health, emergency services and smart energy systems—and is now an expectation for many businesses and communities up and down the country. It supports the adoption of new and emerging technologies including Artificial Intelligence (AI) and enables citizens to participate in modern life. In an increasingly online world, growth in data consumption and increased demands on the UK's digital infrastructure mean there is an urgent need to support the sector in delivering greater connectivity for local communities and businesses. The government is committed to the rollout of gigabit-capable broadband and modern 5G networks, with the goal of enabling businesses, residents, and institutions to access seamless and reliable connectivity. These efforts are essential to building a more competitive, equitable, and digitally connected nation.

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In addition, the 2025 Resilience Action Plan then also adds further weight to the argument by reiterating that telecommunications are 'Critical National Infrastructure' that is integral to many, if not all, economic sectors. These governmental aspirations are undeniable.

Planning Policy and Other Material Planning Considerations

When considering the appropriateness of the proposal, it is imperative that decision maker give material weight to telecommunications specific policy where it exists. If it does not exist at a local level, or if the policy is out of date, then the NPPF must prevail. One must also appreciate that it is extremely unreasonable to expect niche infrastructural development, such as that proposed development, to strictly adhere to more general policy criteria. Furthermore, it is a material consideration to recognise the planning application type as the proposal benefits from permitted development subject to a prior approval determination.

National Planning Policy Framework (NPPF) December 2024²¹

The NPPF recognises the role that modern communications systems must play in achieving sustainable economic growth and provides a set of national planning objectives which are designed to support growth, protect the environment and ensure decisions are made at a local level. It encourages a more positive approach to how LPAs view development proposals with an emphasis on the important benefits modern communications bring, for example helping to achieve sustainable economic growth and the need for access to high quality mobile services in all areas, both urban and rural.

Section 10 of the NPPF is entitled "Supporting High Quality Communications" and reiterates in paragraph 119 that:

- Advanced, high quality and reliable communications infrastructure is essential for economic growth and social well-being
- Planning policies and decisions should support the expansion of electronic communications networks, including next generation mobile technology (such as 5G)

Paragraph 120 advocates that:

- Site/mast sharing be encouraged; and
- New sites should be carefully designed using camouflage techniques where necessary and possible

Paragraph 121 then goes on to highlight that LPAs:

- Should not impose unnecessary restrictions on telecommunications development
- Should reassure themselves that no impact upon other electrical equipment or instrumentation will occur
- Should consider the possibility of the construction of new buildings or other structures interfering with broadcast or other electronic communications

Paragraph 122 requires that applications be supported by appropriate justification including consultation with educational establishments or safeguarding bodies and via the provision of an ICNIRP certificate.

Paragraph 123 also places an emphasis on the fact that LPAs must determine applications for communications infrastructure on planning grounds alone.

²¹ https://assets.publishing.service.gov.uk/media/669a25e9a3c2a28abb50d2b4/NPPF_December_2023.pdf

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Other relevant Sections from the NPPF are outlined below:

- Section 2's 'Achieving Sustainable Development', promotes sustainable development via the support for economic, social and environmental objectives
- Section 4's 'Decision Making', confirms the need for LPAs to approach decisions on proposed developments in a positive and proactive way, seeking to approve applications for sustainable development where possible.
- Section 6's 'Building a strong, competitive economy', outlines the need to support economic growth referring specifically to digital infrastructure and highlighting the need to appreciate specific locational requirements; a matter that is which is very relevant to communications development which is based upon very specific geographical necessities. With modern technologies, coverage requirements must be addressed from within or extremely close to the target area.
- Section 16 'Conserving and enhancing the historic environment' confirms the need to consider the potential impact of development upon historic assets, advocating that any proposal that results in harm to a designated heritage asset must have clear and convincing justification. Most importantly, Paragraph 215 of the NPPF confirms that where a development proposal leads to less than substantial harm, then this harm must be weighed up against the public benefits of the development proposal, including its optimum viable use.

Code of Practice for Wireless Network Development in England²²

This document, known as 'the Code', provides guidance to Code Operators (referred to as 'operators' throughout the Code of Practice), including the Mobile Network Operators and wireless infrastructure providers, their agents and contractors, local planning authorities, and all other relevant stakeholders in England on how to carry out their roles and responsibilities when acquiring the land for and installing wireless network infrastructure. It is also a useful tool for other interested stakeholders such as community groups, amenity bodies and individuals with an interest in mobile connectivity.

The current Code of Practice builds upon the aims of that which it replaced, i.e., the Code of Best Practice 2016, to support the government's objective of delivering high quality wireless infrastructure whilst balancing these needs with environmental considerations. It also has an important role in making sure that appropriate engagement takes place with local communities and other interested parties.

Although led by the Department for Digital, Culture, Media and Sport (DCMS), this Code of Practice has been developed in collaboration with representatives of the mobile network industry, other government departments and public bodies, local planning authorities, and protected landscapes.

The document outlines the Legal and Policy frameworks within which the document has been produced and reiterates the following:

"Digital connectivity is vital to enable people to stay connected and businesses to grow. Fast, reliable digital connectivity can deliver economic, social and well-being benefits for the whole of the UK."

²² <https://www.gov.uk/government/publications/code-of-practice-for-wireless-network-development-in-england>

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As the demand for mobile data in the United Kingdom is increasing rapidly, it is important that everyone has access to dependable and consistent mobile coverage where they live, work and travel.”

Paragraphs 8 and 9

It is also important to note the Code states that:

“Section 10 of the NPPF sets out the planning policies for communications development in England, and states that advanced, high quality and reliable communications infrastructure is essential for economic growth and social well-being. The NPPF also sets out that planning policies and decisions should support the expansion of electronic communications networks, including next generation mobile technologies (such as 5G). Other sections of the NPPF set out how these policies should be balanced with other considerations, including conserving and enhancing the natural environment and historic environment.”

Paragraph 15

With regards to how wireless networks function, and with specific reference to 5G, the Code states that:

“Wireless technology continues to evolve rapidly, and mobile devices are now capable of much more. Second generation (2G) technology gave us voice calls and text messages, 3G led to the launch of smartphones, and 4G, which enabled faster browsing, allowed us to do things like watching videos on the move. 5G, the latest generation of wireless technology, is much faster than previous generations of wireless technology and can offer greater capacity and lower latency, allowing thousands of devices in a small area to be connected at the same time. 5G networks, and future mobile generations, will be vital for a range of Internet of Things uses (IoT) and Smart City applications.”

Paragraph 17

The Code also outlines its ‘Principles and Commitment’ as follows:

“Operators should develop their networks and install wireless infrastructure according to the following principles and commitments:

- *Site sharing and use of existing infrastructure: make use of existing structures, sites and masts wherever possible to reduce the need for new development. The NPPF states that, when installing mobile infrastructure, the number of masts and sites 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.*
- *Consultation with local planning authorities, local communities and other stakeholders: participate in dialogue with local planning authorities, along with other relevant stakeholders such as the highways authorities, Area of Outstanding Natural Beauty bodies, Historic England, and Natural England, including pre-application discussions, where appropriate. Maintain clear procedures, and high-quality communication and consultation with local communities and other interested parties. Operators should agree community engagement with local planning authorities and share information as appropriate (see pre-application consultation with local communities below).*
- *Standardised and high-quality approach to planning applications, and the notification procedure: provide standardised supporting documentation for planning applications (where appropriate) within the context of national and local requirements. Ensure planning submissions are of high-quality and provide the necessary evidence to support the application (as per the NPPF).*
- *Prompt responses to enquiries: respond to complaints and enquiries within a timely manner (see Review and Enquiries section below).*
- *Siting and Design: wireless infrastructure should be deployed in accordance with the guidance set out within this Code of Practice. Where appropriate, equipment should comply with the principles set out in the NPPF and consider any local planning policies, including any local and national design codes.*

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When located in protected landscapes and other designated land, the sensitive nature of these areas must be considered.

- *Removal of redundant equipment and site restoration: ensure that when infrastructure is upgraded, any equipment that is made redundant by the upgrade, such as brackets, is removed to benefit the local environment. Where a whole site is no longer in use, the site should be restored to its original state.*
- *Compliance with guidance laid out in the International Commission on Non Ionizing Radiation Protection (ICNIRP) public exposure levels guidance: as required by spectrum licences, comply with international guidelines for limiting exposure to electromagnetic fields (EMF) – including, as set out in the NPPF, providing a statement that self-certifies that ICNIRP guidelines will be met with all applications (see Annex C)."*

Paragraph 18

Equally importantly, the current Code outlines the role of the Local Planning Authority stating:

"Local planning authorities should support the deployment of digital infrastructure by:

- *Incentivising connectivity: support the expansion of telecommunications networks, and take a 'joined-up' approach to the wireless infrastructure planning process, including ensuring that Local Plans effectively support the deployment of digital infrastructure.*
- *Facilitating sites: engage with operators when new sites have been proposed and discuss site requirements.*
- *Engagement with operators: respond positively to requests for engagement and make decisions in line with national policy and Local Plans. For planning applications, find solutions to issues and ensure timely decisions are made.*

Information and communication: ensure that members of the public can access information about any development proposals within their local area. Send communications promptly to an appropriate operator contact (or their representatives)."

Paragraph 19

On the issue of site selection, the Code states the following:

"Planning authorities should consider... the need for a site within a limited search area alongside the public benefit of improved connectivity. In general, it should not, therefore, be appropriate for planning authorities to seek wider evidence of alternative sites (beyond that required by the NPPF), unless they consider the proposed development is unacceptable having regard to the relevant material planning considerations."

Paragraph 27

On the matter of 'Design' paragraphs 28 and 29 outline the following design principles:

"The siting of wireless infrastructure will influence which design options are most appropriate for reducing the visual impact. The following design principles are important considerations:

- *Protecting visual amenity: a comprehensive assessment of the area should be carried out to ensure that the design solution appreciates the context of its location by fitting with both the site and the wider setting. Proposals should take into account protected sightlines, landmarks and vistas. This is particularly important when mobile infrastructure is located in protected landscapes or heritage sites and their settings (see 'Natural Environment and Heritage Assets' section below).*
- *Mitigating visual impacts: when possible, operators should look to use sympathetic designs, materials and colour (including camouflage where appropriate) to minimise the contrast between*

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infrastructure and the area. Operators should also consider the design principles set out in the NPPF and local planning policies, and consider any relevant local and national design codes.

There are factors that can affect the type of infrastructure that will be deployed including location and the coverage and capacity requirements. Planning authorities should be aware of these constraints when considering proposals. In particular:

- *In urban areas, where there is a high level of demand for mobile data, mobile base stations are likely to need to be deployed more densely. In these settings you can expect to see more use of streetwork monopoles and rooftop installations...*

Paragraphs 28 and 29

The Code's subsection entitled 'Technical and operational considerations' confirms that there are 3No. 'primary technical and operational considerations for sites, i.e.:

- They must supply appropriate coverage to the intended area
- They must offer sufficient capacity to meet demand; and
- They must be able to connect into the wider network

And with regards to '5G network development considerations' the Code reiterates that:

"...5G installations will be more constrained and guided by these special technical and operational considerations."

Paragraph 66

Regional Planning Policy and Guidance

- **The London Plan 2021²³**

The Mayor of London's adopted London Plan 2021 ('The Plan') forms the Spatial Development Strategy for Greater London setting out a framework for how London will develop over the next 20-25 years. Along with the mayor's vision for Good Growth, the policies in the Plan should inform decisions on planning applications across the capital. The Plan confirms that each of the London Borough's Local Plans must be in 'general conformity' with the London Plan, ensuring that the planning system for London operates in a joined-up way and reflects the overall strategy for how London can develop sustainably, which the London Plan sets out. The foreword of the Plan confirms the intent to make London a pioneering smart city with world-class digital connectivity supporting more digital devices to improve the lives of Londoners and enable businesses to thrive and ensure London's global competitiveness. This theme runs throughout the Plan.

The Plan contains 'Policy SI 6 Digital connectivity infrastructure' which, as the name suggests, is specific to development such as that being proposed. The policy states:

- A. *"To ensure London's global competitiveness now and in the future, development proposals should:*
- 1) *ensure that sufficient ducting space for full fibre connectivity infrastructure is provided to all end users within new developments, unless an affordable alternative 1GB/s-capable connection is made available to all end users*

²³ <https://www.london.gov.uk/programmes-strategies/planning/london-plan/london-plan-2021>

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- 2) *meet expected demand for mobile connectivity generated by the development*
- 3) *take appropriate measures to avoid reducing mobile connectivity in surrounding areas; where that is not possible, any potential reduction would require mitigation*
- 4) *support the effective use of rooftops and the public realm (such as street furniture and bins) to accommodate well-designed and suitably located mobile digital infrastructure.*

B. Development Plans should support the delivery of full-fibre or equivalent digital infrastructure, with particular focus on areas with gaps in connectivity and barriers to digital access."

The above Policy is followed by further justification in the form of Paragraph 9.6.1 which states:

"The provision of digital infrastructure is as important for the proper functioning of development as energy, water and waste management services and should be treated with the same importance. London should be a world-leading tech hub with world class digital connectivity that can anticipate growing capacity needs and serve hard to reach areas. Fast reliable digital connectivity is essential in today's economy and especially for digital technology and creative companies. It supports every aspect of how people work and take part in modern society, helps smart innovation and facilitates regeneration."

Given the fact that modern and efficient digital communications are integral to the well-being of the city's economy, help reduce the need to travel, provide social inclusion benefits and are the main means of contacting the emergency services, it would also be wrong to ignore the following general policies in a weighted manner:

- GG1 Building strong & inclusive communities
- GG3 Creating a healthy city
- GG5 Growing a Good Economy
- GG6 Increasing efficiency and resilience
- D2 Infrastructure requirement for sustainable densities
- D3 Optimising site capacity through the design-led approach
- D4 Delivering Good Design
- D8 Public Realm
- E8 Sector growth opportunities and clusters
- HC1 Heritage conservation and growth
- SI1 Improving air quality
- SI2 Minimising greenhouse gas emissions
- T2 Healthy Streets
- T7 Deliveries, Servicing and Construction

Chapter 1 of the London Plan deals with 'Planning London's Future – Good Growth' with paragraph 1.0.1 relating to 'Good Growth' that is:

"...socially and economically inclusive and environmentally sustainable and underpins the whole of the London Plan and each policy. It is the way in which sustainable development in London is to be achieved".

Paragraph 1.1.4 under 'Building Strong & Inclusive Communities' includes:

'... social, physical and environmental infrastructure that meets London's diverse needs is essential if London is to maintain and develop strong and inclusive communities.'

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The corresponding policy in GG1 Building Strong & Inclusive Communities states:

“Good growth is inclusive growth. To build on the city’s tradition of openness, diversity and equality, and help deliver strong and inclusive communities, those involved in planning and development must:

...C provide access to good quality community spaces, services, amenities and infrastructure that accommodate, encourage and strengthen communities, increasing active participation and social integration, and addressing social isolation...

D seek to ensure that London continues to generate a wide range of economic and other opportunities, and that everyone is able to benefit from these to ensure that London is a fairer, more inclusive and more equal city...

‘I support and promote the creation of an inclusive London where all Londoners, regardless of their age, disability, gender, gender identity, marital status, religion, race, sexual orientation, social class, or whether they are pregnant or have children, can share in its prosperity, culture and community, minimising the barriers, challenges and inequalities they face...’

Improving digital infrastructure supports the Government’s ‘levelling up’ agenda, by helping local areas to retain and attract businesses and talent as well as by reducing regional inequalities. The proposed development will provide a solution for improved network coverage and capacity, whilst also offering new 5G services, which is much needed for reliable up to date connectivity and will ensure good quality essential infrastructure to support strong inclusive communities and contribute to economic opportunities and an inclusive London.

Paragraph. 1.3.1 states:

‘The mental and physical health of Londoners is, to a large extent, determined by the environment in which they live. Transport, housing, education, income, working conditions, unemployment, air quality, green space, climate change and social and community networks can have a greater influence on health than healthcare provision or genetics. Many of these determinants of health can be shaped by the planning system, and local authorities are accordingly responsible for planning and public health’.

The supporting text for Policy GG5 ‘Growing a good economy’ states:

“...1.5.1 London is the engine of the UK economy, accounting for more than a fifth of the country’s economic output. Its labour market, housing market and transport links are interconnected with the Wider South East city region, which shapes the development of the whole of the UK. Together, London and the Wider South East contribute a full half of the country’s output. London has unique strengths in specialist fields like finance, business services, technology, creative industries and law, as well as attracting tourists from around the world, providing a gateway to the rest of the UK. The wealth this generates is essential to keeping the whole country functioning, but the benefits of economic success are not shared evenly within London itself.”

“...1.5.3 Projected growth towards 6.9 million jobs by 2041 provides an opportunity to strengthen London’s economy for the future, and doing so will depend on increasing diversification. The Central Activities Zone and Northern Isle of Dogs will remain vital to London’s economic success, but growth in town centres across London will be equally important, alongside supporting local regeneration, investment in Opportunity Areas and enabling access to a wide range of jobs. Reasonably-priced, good quality employment space will be needed across London to make this happen.”

“1.5.4 The right infrastructure is also required to help businesses succeed across London. The digital economy, underpinned by world-class digital connectivity, data and digital services is of ever-increasing

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importance, improving processes, opening up new markets and allowing more flexible working. Convenient transport connections and street, rail and waterway networks that allow the efficient movement of goods and people are also vital, alongside the schools, healthcare facilities and other amenities that employees need to be healthy and productive.”

Policy GG5 goes on to confirm:

“To conserve and enhance London’s global economic competitiveness and ensure that economic success is shared amongst all Londoners, those involved in planning and development must:

... D ensure that sufficient high-quality and affordable housing, as well as physical and social infrastructure is provided to support London’s growth

E ensure that London continues to provide leadership in innovation, research, policy and ideas, supporting its role as an international incubator and centre for learning

... H recognise and promote the benefits of a transition to a low carbon circular economy to strengthen London’s economic success.”

The Plan’s Chapter 6 ‘Economy’ includes ‘Policy E8 Sector growth opportunities and clusters’, the relevant sections of which state:

“A. Employment opportunities for Londoners across a diverse range of sectors should be promoted and supported along with support for the development of business growth and sector-specific opportunities.

B. London’s global leadership in tech across all sectors should be maximised.

G. In collaboration with the Mayor, boroughs are encouraged to identify and promote the development of Strategic Outer London Development Centres (SOLDC) that have one or more specialist economic functions of greater than sub-regional importance. SOLDCs should be supported by:

2. coordinating infrastructure investment

6. improving Londoner’s access to employment opportunities.”

Further justification is supplied in Paragraph. 6.8.1 which states:

*“The Mayor wants London to continue to provide the best environment in the world in which to do business, so that businesses of all different sizes and sectors can reach their growth potential. This includes **supporting business and employment across all sectors** of the economy and capitalizing on new growth opportunities in emerging sectors.”*

With Paragraph. 6.8.3 continuing that:

*“**tech and digital sector** – which supports the growth and evolution of all sectors in the economy. Planning should ensure that new developments have the digital connectivity required to support London’s global competitiveness (see Policy SI 6 Digital connectivity infrastructure). ...The Mayor will support the growth of the tech and digital sector across all of London”*

Local Planning Policy and Guidance²⁴

²⁴ <https://haringey.gov.uk/planning-building-control/planning/planning-policy>

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The Haringey Local Plan policies, plans and strategic policies, development plan and supplementary planning documents, area action plans, North London Waste Plan, and delivering net zero must all be considered when assessing any planning applications.

- Development Management Development Plan Document (DPD)
Sets out planning policies to help determine which developments are granted planning permission in Haringey. Adopted on 24 July 2017, the document included the following policy that is most relevant to the proposed development:

“DM54 Facilitating Telecommunications Development

A The Council will promote the development of advanced, high-quality communications infrastructure to support economic growth and more accessible, inclusive communities. This will be achieved by requiring new development proposals to:

b Be designed in such a way as to be capable of facilitating delivery of high speed broadband technology;

c Demonstrate how they will improve communications infrastructure in areas of poor broadband connectivity, as identified in Haringey’s Infrastructure Delivery Plan, including through connection of the development to a nearby trunk network; and

d Deliver “ultrafast” connections in Regeneration Areas; and e Be designed to meet the requirements of Policy DM3.

Given that telecommunications infrastructure is visible in the public realm and is the main means by which people contact the emergency services, with EE being the Emergency Services Network provider, the following general policy must also be taken into account:

- DM1 Delivering High Quality Design
- DM2 Accessible and Safe Environments
- DM3 Public realm
- Haringey’s Local Plan: Strategic Policies
Adopted by the council in 2013 to replace the Unitary Development Plan (UDP), with subsequent alterations adopted on 24 July 2017. The document sets out the long-term vision of how Haringey should develop by 2026. It sets out a strategy for achieving that vision, including high-level strategic policies used in determining planning applications.

Given that telecommunications infrastructure helps reduce the need to travel, facilitates working from home practices, enables remote access to a multitude of services and is a means of promoting digital inclusivity, the following are considered to be relevant policies:

- SP0 Presumption in favour of sustainable development
- SP4 Working towards a low carbon Haringey
- SP9 Improving skills and training to support access to jobs and community cohesion and inclusion
- SP11 Design

However, one must appreciate that it would be unreasonable to expect such niche infrastructure as that proposed to adhere strictly to general policy criteria. This must therefore be applied in a weighted manner when considering siting and appearance.

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Planning Summary

A summary as to why the subject proposal adheres to all relevant policy criteria is outlined below:

- Operational Requirement

There is a clear operational need for the development which has been devised by Cornerstone, on behalf of VodafoneThree to provide a retained, temporary solution for replacement network coverage and capacity in a critical area, i.e., that of St Ann's Hospital; an area that would face a significant loss of network coverage and capacity if the existing temporary mast were to be removed before a permanent replacement be brought to fruition. As well as those using the hospital ground for work and medical attention, the infrastructure will benefit of approximately 31% of the wider population/community, who according to recent figures are VodafoneThree customers.

- Siting and Appearance

The siting and appearance of any new base station development is directly linked to operational need. Given that the critical need is to serve the hospital complex, the infrastructure must be located within these grounds. In order to minimise disruption to onsite function and redevelopment plans; for ease of deployment and removal; and to avoid signal infringement by buildings and trees, the hospital and operator has agreed to use the site in question whilst further efforts are employed to identify a permanent solution. Whilst located within the St Ann's Conservation Area, any harm that arises will be temporary in nature.

Similar to siting requirements, the design of any new base station development is directly linked to operational need. It also has to be tailored to the bespoke nature of the site in question, i.e., with consideration in a context of topography, proximity to other natural and manmade features, planning policy and other local sensitivities. It must also be structurally capable of accommodating the necessary transmission apparatus at the required height. In this case, the base station is temporary in nature and as indicated above, this means the use of a standard, removable design that can be utilised in any setting.

Again, whilst some impact upon amenity will occur as a result of introducing and now seeking to maintain a mast in this location, this harm is considered to be localised and temporary and is well outweighed by benefit and operational justification.

- Weighing up Harm versus Benefit and Need

As outlined above, the proposed essential infrastructure will allow local residents, businesses, employees and visitors in the locale to access the many social and economic benefits associated with modern communications network services, maintaining much needed network services in the St Ann's Hospital area.

One will appreciate that high quality and reliable communications infrastructure are essential for economic growth and social well-being and the demand for mobile data in the UK is increasing rapidly as households and workplaces become increasingly reliant on mobile connectivity. The infrastructure must therefore be in place to ensure supply does not become a constraint on future demand.

There should be no doubt that the Government fully supports the maintenance and development of high quality communications infrastructure and decision makers must appreciate that the NPPF advocates that

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local planning authorities should also support the expansion of electronic communications networks where impact is deemed to be acceptable or outweighed by benefit. We contend that the impact that will occur as a result of this essential infrastructure being deployed on site is considered to be justified and outweighed by the many benefits of providing an effective modern communications service.

To further support this argument, we would refer the reader to the following appeal decisions where the Inspector has heavily weighed the need to ensure coverage is maintained / enhanced against any perceived visual harm.

- PINS ref: 3197522: Andover Road, Winchester

The Inspector suggested that significant weight should be placed on NTQ replacement sites, stating:

"I attach significant weight to the public benefit arising from the continuation of local service provision... my findings are that the proposal's public benefit in maintaining and enhancing local telecommunications coverage and capacity would outweigh the limited harm arising to the character and appearance of the area."

- PINS ref: 3287882: High Road, Weald Lane

The Inspector took a similar approach to the above, stating:

"I have also found that there is a clear need for the development in this location in order to sustain and enhance communications infrastructure within the area... I am also convinced that, should the proposal not go ahead and the existing equipment be removed, the quality of communications services within the area would be seriously deficient. I also recognise the benefits associated with improved communications infrastructure within the area which would not otherwise be achieved... in my view, and with regard to the specific circumstances which are present in this case, the benefits of the scheme would outweigh the harm which would be caused to the character and appearance of the area."

Conclusion

The further retention of this temporary infrastructure for a limited period of 18months, or sooner if a permanent solution can be brought to fruition, will provide nationally important replacement infrastructure at a local level, on a temporary basis, in the public interest and in line with National Government and regional aims to support the digital economy, global competitiveness, and the right infrastructure for underpinning world class connectivity.

Once again, we would reiterate that any resulting impact will be temporary and well outweighed by operational need and the many social, economic and environmental sustainability benefits that modern communications networks bring.

We trust that the above and enclosed information is to your satisfaction and would be happy to expand upon any aspect of this proposal if required.

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Confirmation that submitted drawings have been checked for accuracy

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Signed:		Date:	31 July 2026
Position:	Consultant Planner to Cluttons (on behalf of Cornerstone)		

Appendices

- Appendix A:** **Additional supporting information**
- **General Background Information for Telecommunications Development**
 - **5G Masts and Health**
 - **Public Benefit of Mobile Connectivity**
 - **Radio Planning and Propagation**
 - **Community Information Sheets**
 - **5G Services**
 - **Health Summary**
 - **Safety Guidelines on Electromagnetic Fields from Antennas**
 - **How it works**
 - **Coverage and Capacity**

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Appendix A:

Additional Supporting Information

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General Background Information for Telecommunications Development.

England

Introduction.

Cornerstone is the UK's leading mobile infrastructure services company. We acquire, manage, and own over 20,000 sites and are committed to enabling best in class mobile connectivity for over half of all the country's mobile customers. We oversee works on behalf of telecommunications providers and wherever possible aim to:

- Promote shared infrastructure;
- Maximise opportunities to consolidate the number of base stations;
- Significantly reduce the environmental impact of network development.

This document is designed to provide general background information on the development of UK mobile telecommunications networks.

It has been prepared for inclusion with planning applications and supports network development proposals with general information.

Background

Over 30 years ago under the Telecommunications Act 1984, a licence was granted to mobile network operators. The licence was to provide wireless (or mobile) phone services utilising unused radio frequencies adjacent to those transmitted for over 50 years by the television industry.

With the wireless technology being new and the number of potential customers unknown, several tall masts were used to provide basic radio coverage to the main populated areas.

As the way we use our phones and other technologies have changed over the past 30 years, where we locate masts is crucial.

Due to the increased data transfer necessary for the latest telecommunication services, locations of base stations must be where the local demand exists.

Digital networks.



2G

2G digital networks developed in the early 1990s.

This digital technology is also known as GSM (Global System for Mobile Communications), which is the common European operating standard. This technology enabled phones to interconnect to other networks throughout Europe and internationally.



3G

In 2000, the 'Third Generation' mobile telecommunications service was launched, known as 3G or UMTS.

In addition to voice services, this allowed broadband access to the internet for mobile phones and laptop computer data card users.



4G

2013 saw the launch of 4G services on the network.

This technology allows for ultra-fast speeds when browsing the internet, streaming videos or sending emails. It also enables faster downloads.

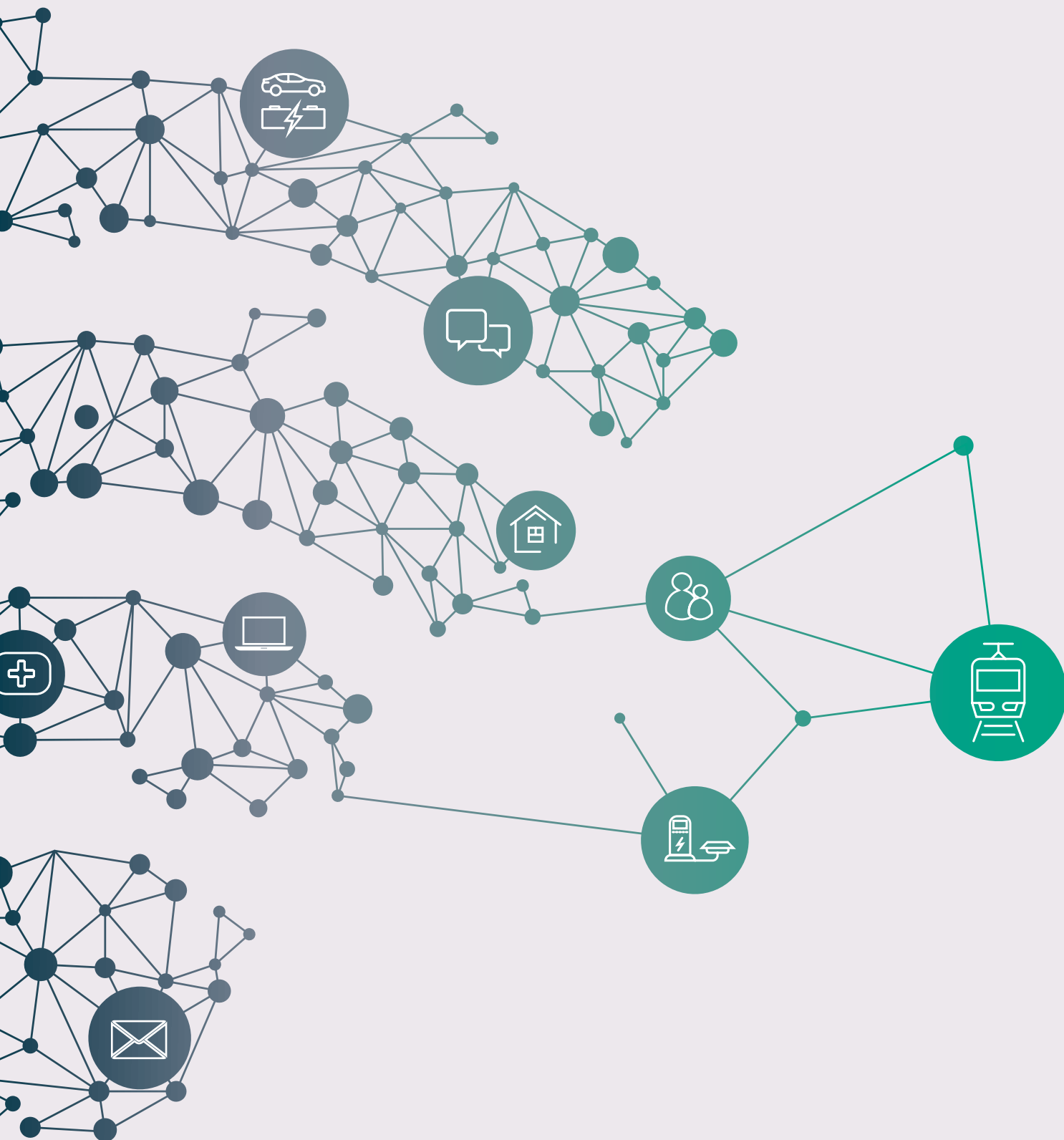


5G

2019 saw the introduction of 5G services, with the Government's ambition for the UK to become a world leader in this technology.

5G Connectivity will ensure that everyone benefits from early advantages of its potential and that the UK creates a world-leading digital economy that works for all.

What is 5G?



5G is the new generation of wireless technology that will deliver reliable and faster networks of the future, changing how we understand wireless connectivity.

The technology will see us all move from something we experience through personal devices to an integrated infrastructure across buildings, transport and utilities. The new technology will provide enormous benefits for citizens, businesses and urban regions alike.

5G will also offer a new level of underlying connectivity to transform services and create new digital ecosystems.

The economic benefit

- Businesses offering online services can extend their products to a broader audience
- Local areas and businesses can benefit from tourists and visitors as hotels, attractions, and restaurants can be booked online from anywhere in the world
- Business owners and services like doctors can provide a faster and more cost effective service by offering both online appointments and ordering
- Digital connectivity facilitates economic growth, something which the Government is keen to progress and promote

The social benefit

- Mobile communications can help people to stay in touch wherever and whenever, which can help improve social well-being
- Contacting emergency services is easier, especially in remote areas
- Using a mobile wherever you go can provide better personal security
- Having access to social networking sites and applications can keep people entertained with their lifestyles and interests

- Mobile connectivity helps promote smarter and productive ways of working. For example, working from home can help minimise commuting which can provide better work and home life balance

- Access to personal information 24/7, e.g. bank accounts, can offer efficiency and convenience

5G is the next generation of mobile connectivity, providing us with a new level of experience. It will offer immense opportunities, given the faster and more reliable connectivity that it will provide.

We will experience new technologies that will help us become more efficient and save costs as an individual or business.

What can we expect from 5G?

- Driverless vehicles – this will give drivers autonomy to do other things while driving
- Advanced healthcare facilities – performing surgeries remotely will be made possible, along with freeing up more GP time through better online facilities
- Enhanced Virtual and Augmented reality (AR) – used in gaming and entertainment already, with 5G, live interactions will be taken to the next level
- Greater Internet of Things (IoT) transformation – with better connected devices, the IoT will enable us to control devices more independently
- Cutting-edge agricultural operations – operating farming machinery and tools remotely will promote smart agriculture, saving time and increasing productivity for farmers

We need to continue to work together to enable the opportunities that mobile technology brings to all of us.

Planning policies.

Planning policy guidance on telecommunications

The revised National Planning Policy Framework (NPPF), published in December 2024, supports high-quality communications infrastructure and recognises it as a strategic priority.

Within paragraph 119 it states that:

“Advanced, high-quality and reliable communications infrastructure is essential for economic growth and social well-being. 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.”

The NPPF goes on to state within Paragraph 123 that:

“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.”

Section 6 of the revised NPPF relates to:

“Building a Strong, Competitive Economy” and refers specifically to ‘Digital Infrastructure.’

Paragraph 85 states:

“Significant weight should be placed on the need to support economic growth and productivity. This is particularly important where Britain can be a global leader in driving innovation.”

Paragraph 86 highlights that Local Development Plans should include policies that facilitate development to meet the needs of a modern economy, including identifying suitable locations for uses such as digital infrastructure. It goes on to confirm that Planning Policies should:

“Set out a clear economic vision and strategy which positively and proactively encourages sustainable economic growth, having regard to the national industrial strategy and any relevant Local Industrial Strategies and other local policies for economic development and regeneration.”

And that they should:

“Seek to address potential barriers to investment, such as inadequate infrastructure, services or housing, or a poor environment.”

Paragraph 87 states:

“Planning policies and decisions should recognise and address the specific locational requirements of different sectors. This includes making provision for: (a) clusters or networks of knowledge and data-driven, creative or high technology industries, and for new, expanded or upgraded facilities and infrastructure that are needed to support the growth of these industries.” And (c) “The expansion or modernisation of other industries of local, regional or national importance to support economic growth and resilience.”

Site/Mast sharing

Cornerstone actively encourages and supports site-sharing for both commercial and environmental reasons. All operators are required to explore site-sharing opportunities under the terms of their licences. Cornerstone has implemented many measures to identify and maximise site-sharing opportunities.



Consultation & legal case.

Consultation

Cornerstone is committed to carrying out appropriate consultations with Local Planning Authorities, stakeholders and the public.

The Code of Practice for Wireless Network Development in England (March 2022) gives guidance on the factors that operators should consider when determining what consultation is required, as each development is different.

These factors are equally applicable for Local Planning Authorities who carry out their own consultation once the application has been submitted.

Legal case

The following legal case may be helpful:

Harrogate case November 2004

The Court of Appeal gave a judgement that Government Planning Guidance in PPG8 (now replaced by the NPPF) is perfectly clear in relation to compliance with the Health and Safety standards for mobile phone base stations.

The Court of Appeal and the High Court both upheld Government policy in response to a planning inspector's decision that departed from that policy and failed to give adequate reasons for doing so.

Bardsey case January 2005

The Court of Appeal confirmed that the permitted development regime for mobile phone base stations is compliant with the Human Rights Act. This was a case in which a local planning authority failed to comply with its obligations to act within the 56 day period provided under the permitted development regulations.

Further information.

We trust that this document answers your main queries regarding our planned installation.

The enclosed site-specific details will identify any alternative discounted options and reasons why they were rejected and how the proposed site complies with national and local planning policies.

The Local Government Ombudsman's Special Report on Telecommunication Masts gives some positive recommendations and advice to Local Planning Authorities in determining prior approval applications.

The Digital Connectivity Portal provides guidance for local authorities and network providers on improving connectivity across the UK. Produced by DCMS, it promotes closer co-operation between network providers and local authorities, and offers guidance on effective policies and processes to facilitate deployment of digital networks.

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Electromagnetic Fields". This report concluded that there is no convincing evidence that mobile phone technologies cause adverse effects on human health.

The World Health Organisation (WHO) noted that "A large number of studies have been performed over the last two decades to assess whether mobile phones pose a potential health risk. To date, no adverse health effects have been established as being caused by mobile phone use" WHO factsheet 193: Electromagnetic fields and public health: mobile telephones, 2014.

In 2019 Public Health England (PHE) noted that "Exposure to radio waves is not new and health-related research has been conducted on this topic over several decades. In particular, a large amount of new scientific evidence has emerged since the year 2000 through dedicated national and international research programmes"

<https://www.gov.uk/government/publications/5g-technologies-radio-waves-and-health/5g-technologies-radio-waves-and-health>

ICNIRP GUIDELINES

The radiofrequency public exposure limits for EMF fields were developed by the International Commission on Non-Ionizing Radiation Protection (ICNIRP) <http://www.icnirp.org> following evaluation of all the peer-reviewed scientific literature, including thermal and non-thermal effects. ICNIRP is a non-governmental organisation formally recognised by WHO. Established biological and health effects have been used as the basis for the ICNIRP exposure restrictions. These guidelines have been adopted for use in the European Union and the UK.

In 2017 ICNIRP reaffirmed that their safety guidelines provide protection against all known health effects of radiofrequency signals.

COMPLIANCE WITH INTERNATIONAL EXPOSURE GUIDELINES

All Cornerstone installations are designed and constructed in compliance with the precautionary ICNIRP public exposure guidelines as adopted in EU Council Recommendation of 12 July 1999 on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz). These guidelines have been set following a thorough review of the science and take into consideration both thermal and non-thermal effects. They protect all members of the public 24 hours a day. In addition, precautionary measures have been taken into account when setting relevant guideline limits for the public (i.e. in the UK a safety factor of 50 times is applied to the public exposure guideline).

When measured, field strengths are many times lower than the precautionary ICNIRP general public guidelines.

An ICNIRP certificate is provided with every planning application and this verifies that the mobile phone base station, when operational, will meet the precautionary ICNIRP guidelines. We also provide further documentation to clarify that the ICNIRP certificate addresses emissions from all mobile phone network operators' equipment at the proposed site.

Further Information:

World Health Organisation EMF Project

<http://www.who.int/peh-emf/en/>

International Commission on Non-Ionizing Radiation Protection (ICNIRP)

<http://www.icnirp.org/>

Public Health England (formally HPA)

<https://www.gov.uk/government/collections/electromagnetic-fields>

Or contact:

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Email: community@cornerstone.network

5G Masts & Health

5G is a generation leap in mobile technology with multiple benefits. However, with new technology, it is understandable that people wish to seek reassurance as to its safety and how it works.

This guide provides an explanation of 5G and the equipment behind it, including the antennae and the masts, to ensure that there is no cause for concern in regard to health.

5G & Radio Waves

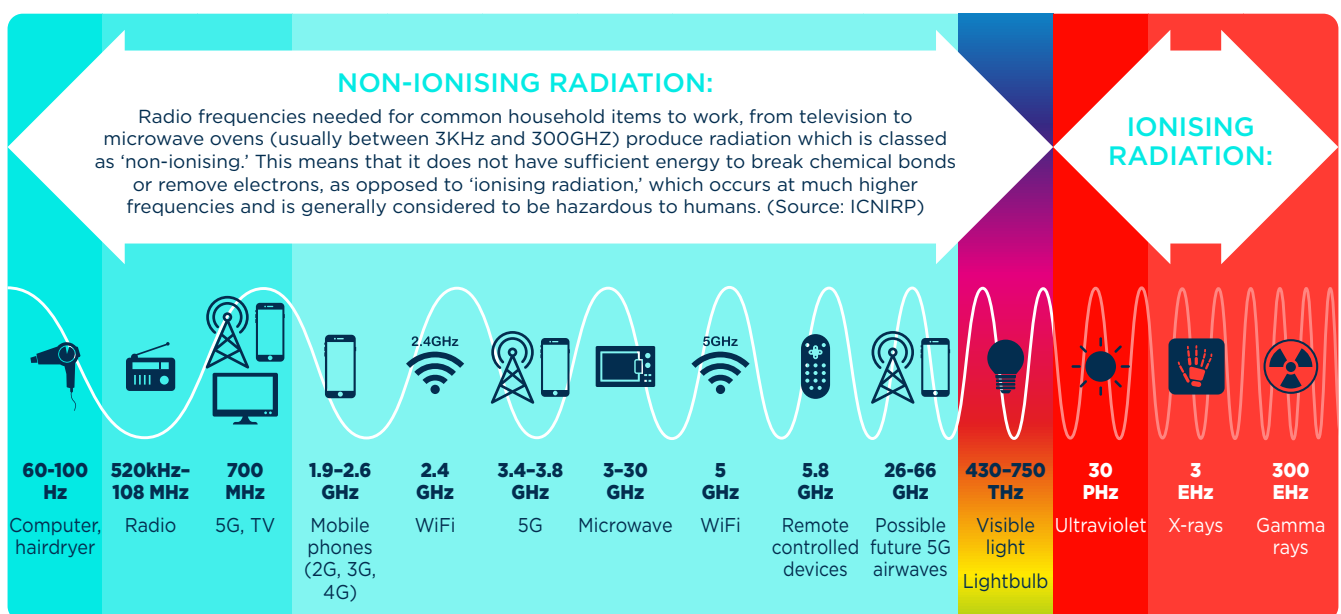
5G is broadcast using radio waves, which are a type of radiation in what is commonly referred to as the 'electromagnetic spectrum.' Sometimes the word 'radiation' scares people, because it is an invisible thing and something many people do not understand, or easily confuse with 'radioactivity.'

Radiation is simply the release of energy, just like the light from the sun or heat from our bodies. Most radiation is considered harmless, or in scientific terms, non-ionising when used within guidelines. It is part of our everyday lives, without us even realising it. Radio waves are used by your TV, radio and remote control.

5G uses a specific frequency of radio waves, just like 4G and before that 3G. The exposure to these radio waves is very low and crucially, many times lower than public safety guidelines dictate.

All frequencies that are currently and will in future be used for 5G fall within the part of the electromagnetic spectrum that includes radiation which is classed as non-ionising. This means that these radio waves do not carry enough energy to directly damage cells. This is different from 'ionising' radiation, which is generally considered to be hazardous to humans and includes gamma (nuclear) radiation as well as x-rays, which occur at the higher frequency end of the electromagnetic spectrum.

- Ofcom



5G Masts & Health

Research into the safety of 5G and mobile phone signals

Research into the safety of radio waves has been conducted for more than 80 years, across the UK and around the world. The strong consensus of scientific opinion and public health agencies, such as the World Health Organisation (WHO), is that no dangers to health have been established from exposure to the low-level radio signals used for mobile communications, including 5G, when used within guidelines.

Strict safety guidelines

All mobile operators must ensure that their radio base stations (also known as masts) are designed and built so that the public are not exposed to radiofrequency fields above the strict safety guidelines which govern and limit public exposure to electromagnetic fields. In fact, base stations operate at low levels, emitting levels of radio waves many times lower than the guidelines.

The International Commission on Non-Ionising Radiation Protection (ICNIRP) is the universally recognised non-governmental organisation that governs the safety levels of electromagnetic field or radio wave exposure and is accepted by the World Health Organisation (WHO). The guidelines, updated in 2020, monitor frequencies up to 300GHz, anything below this threshold is considered to not cause adverse health effects and is therefore safe for the public. 5G radio waves fall well within this category, operating at 700MHz and between 3.4GHz 3.6GHz.

Testing of 5G masts

In fact, the UK's telecoms regulator Ofcom carried out tests at 5G-enabled mobile masts across the country. The highest emission levels (e.g. radiation) recorded at mobile phone masts were consistently well within the strict safety guidelines that monitor radiation levels.

Further Information

As the world depends more and more on mobile connectivity and we are consuming more data, existing networks are becoming congested. 5G has the capacity to handle this and future demand, as it will offer much faster data and upload speeds, allow more devices to access the mobile internet at the same time, and significantly reduce the amount of time it takes to send information from one point to another.

The rollout of 5G is not just about the benefits to each individual mobile phone user but the wider societal benefits of providing connectivity to all, such as the emergency services, local businesses and the provision of council services; the capability of 5G can transform, and ultimately help save lives.

For more information on 5G and health, and to learn about the wider benefits of 5G visit www.mobileuk.org.uk/5G-and-health

For further information from external sources regarding 5G and health, the following links may be helpful:

World Health Organization (WHO) - Radiation: 5G mobile networks and health: <https://www.who.int/news-room/q-a-detail/radiation-5g-mobile-networks-and-health>

BBC - Does 5G pose health risks?: <https://www.bbc.co.uk/news/world-europe-48616174>

Which? - Is 5G safe?: <https://www.which.co.uk/news/2020/06/is-5g-safe-everything-you-need-to-know-on-the-5g-powered-future/>

BBC Click - Testing the Safety of 5G: <https://www.youtube.com/watch?v=k2t1dUCyEOI&feature=youtu.be>

Cancer Research UK - Do mobile phones cause cancer?: <https://www.cancerresearchuk.org/about-cancer/causes-of-cancer/cancer-myths/do-mobile-phones-cause-cancer>

A hand holding a smartphone, with the screen reflecting light. The background is a bokeh of colorful lights in shades of blue, green, and orange. A large white circle is in the top left corner.

The public benefit of

mobile connectivity.

The evolution of mobile connectivity.

The demand for faster and improved mobile connectivity continues to grow. Most of us rely on having mobile phones and devices 24/7, which provides us with many benefits.

Since the launch of 2G in 1991, the mobile generation is firmly established. Not only has it provided a way to communicate with each other and exchange information, but it has given individuals and businesses an innovative platform to do much more. Over the years, we have seen 3G and 4G, and now we have been introduced to 5G. The differences between the generations have provided us with higher speed, better connection, and many more advanced features on our mobiles. Now with 5G, we can expect to experience an even more extensive range of telecommunication services.



1G

Mobile
voice only



2G

Calls
and texts



3G

Data
services



4G

High-speed
internet access



5G

Faster connection,
enhanced data services



Connecting you to what matters.

Access to a reliable mobile network has become a necessity for many of us. Some of the key benefits it provides us with are:

- Connecting with family, friends, and colleagues at any time around the world
- Giving the ability to manage our personal information 24/7
- Keeping us always entertained and informed with the latest news
- Creating more productive and cost efficiencies for businesses

The economic benefit

- Businesses offering online services can extend their products to a broader audience
- Local areas and businesses can benefit from tourists and visitors as hotels, attractions, and restaurants can be booked online from anywhere in the world
- Business owners and services like doctors can provide a faster and more cost-effective service by offering both online appointments and ordering
- Digital connectivity facilitates economic growth, something which the Government is keen to progress and promote

The social benefit

- Mobile communications can help people to stay in touch wherever and whenever, which can help improve social wellbeing
- Contacting emergency services is easier, especially in remote areas
- Using a mobile wherever you go can provide better personal security
- Having access to social networking sites and applications can keep people entertained with their lifestyles and interests
- Mobile connectivity helps promote smarter and productive ways of working. For example, working from home can help minimise commuting which can provide better work and home life balance
- Access to personal information 24/7, e.g. bank accounts, can offer efficiency and convenience

5G is the next generation of mobile connectivity, providing us with a new level of experience. It will offer immense opportunities, given the faster and more reliable connectivity that it will provide. We will experience new technologies that will help us become more efficient and save costs as an individual or business.

What can we expect from 5G?

- Driverless vehicles – this will give drivers autonomy to do other things while driving
- Advanced healthcare facilities – performing surgeries remotely will be made possible, along with freeing up more GP time through better online facilities
- Enhanced Virtual and Augmented reality (AR) – used in gaming and entertainment already, with 5G, live interactions will be taken to the next level
- Greater Internet of Things (IoT) transformation – with better connected devices, the IoT will enable us to control devices more independently
- Cutting-edge agricultural operations – operating farming machinery and tools remotely will promote smart agriculture, saving time and increasing productivity for farmers

These are just some highlights of how the public benefits from mobile phones and what 5G will offer. But what's also essential is reliable mobile coverage and connectivity. Without this, we are at risk of not being able to use our phones or maximise it's potential if we experience poor coverage or no signal.

What do we need to enable mobile connectivity in the UK?

To maintain and improve mobile connectivity, it is crucial to recognise that this is only possible with the continuous deployment of mobile infrastructure throughout the UK. Mobile infrastructure (or masts as you might know them) can be placed on rooftops, greenfield sites, and street-works.

As the UK's leading mobile infrastructure services company, Cornerstone works with landowners, institutions, and public authorities to place mobile equipment on sites to enable telecom operators to deliver mobile services to the public.

With more advanced technology now available, placing mobile infrastructure has become even more necessary. To achieve this is a collaborative effort between telecoms, the legal & property industry, and landowners, and requires everyone to work together.

Recognising this, the Government introduced an updated version of the Electronic Communications Code (ECC) in December 2017, to help support the roll-out of mobile infrastructure. Ofcom also issued an ECC Code of Practice to help guide operators and landlords with site dealings and negotiations. Since the introduction of the new ECC, many landlords have been agreeing leases using the Code principles. This has helped operators and landlords, guiding them through the process and ultimately playing a key role in enabling mobile connectivity.

Working together

The future for digital connectivity in the UK lies in many of our hands. The telecom operators are constantly developing new technologies to provide better mobile services to the public in rural and urban areas. However, landlords play a crucial part in building the network too, allowing mobile infrastructure to be placed on their site. Without infrastructure, providing a mobile network to the public isn't possible, which would affect all of us as individuals and businesses.

We need to continue to work together to enable the opportunities that mobile technology brings to all of us.



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RADIO PLANNING AND PROPAGATION (V.4 November 2019)

An introduction to how radio networks are planned and the limitations associated with the technology

When planning cellular telecommunications networks engineers use specialist software to predict, with a high degree of confidence, the behaviour of cellular transmissions. This then enables the operator to calculate how many cell sites are needed to provide the level of coverage and capacity required by their customers.

Radio signals at the frequencies used for cellular radio propagate in a manner that is broadly similar to light. Generally anything that casts a shadow to light will attenuate radio waves. The strength of radio signals detected at a receiving device naturally reduces the further away it is from the transmitter. In general, the attenuation (or decay) in signal power is affected by a number of variables. The main factors are:

- signal frequency (attenuation increases with frequency),
- distance (from the transmitter),
- terrain (such as hills),
- clutter (such as buildings, foliage, vehicles, and water) and
- atmospheric conditions (such as rain).

A reduction in the strength of the radio signal increases the likelihood of dropped calls and reduced data rates for internet browsing, for example.

Clutter

Any physical object obstructing the propagation of radio signals causes a reduction in the signal strength reaching a customer's device. A common term for these objects is 'clutter'. The more obvious examples are buildings and geographical terrain such as hills and trees.

Buildings cause a varying amount of signal reduction depending on their height, construction, thickness of walls, number of windows etc. Glass causes a lower reduction in signal than brick/concrete walls.

Customers will inadvertently be aware of this by finding that sometimes they need to go near windows, a higher floor of a building or even outside in order to achieve a stronger signal for their mobile devices.

Generally, the higher the signal frequency the more it will be impacted by clutter.

Tree Clutter

The effects of trees on signal degradation can be significant. Signal absorption and shadowing effects vary according to vegetation and density, and are caused by the main tree trunk, branches, and leaves.

Cell sites located in or near trees will have signals significantly reduced. As a result, a number of extra sites may need to be built locally in order to counter-effect this.

Signal variation throughout the seasons is also a practical concern. Leaves on trees in the spring and summer can cause shadowing and reduce radio voice quality and increase the number of dropped calls.

As a result, the bottom of an antenna should a) be above the top level of the trees, b) allow greater height due to the antenna downtilt at build or for future requirements and c) allow some room for future growth of the trees.

When a cell site utilises point-to-point microwave dishes to communicate with other cell sites in the network any obstruction between these dishes will result in failed line of sight communications. As a result, dishes need to be placed above the top level of the trees.

Propagation Models

In essence these are mathematical formulae used to characterise radio wave propagation, in order to determine the signal strength at a receiving device.

Coverage Planning Tools

Radio planning engineers plan cellular networks using highly sophisticated computer programs that incorporate propagation models. Armed with data on cell site location, cell site configuration, maps, terrain etc. they are used to *predict* areas of coverage deficiency (so called 'coverage holes'), new site requirements and configurations.

Network Changes

Over time the topography and clutter in an area may change. For example, building developments, housing and tree growth can all change. As the signals received from local phone masts can degrade, as they are dependent on these factors. These reasons along with increased usage of mobile devices, customer complaints, network consolidation (mast sharing) and new technologies (5G) require a re-evaluation of a network operator's telecommunications infrastructure.

Mast sharing can result in some masts no longer being needed. As a result, they are decommissioned and physically removed. Mast sharing will however sometimes result in the need for a taller more substantial structure.

Technical surveys undertaken for reasons above may highlight that antenna height increases are required – this is more likely for sites with low antenna heights around 15m AGL, particularly street furniture sites. More details on these reasons below.

While thus far this document is generic to mobile telephony masts it should be noted that each mast has to be dealt with on a case-by-case basis.

Site Height increases

There are a number of reasons why an operator may request a height increase on existing structures. The main ones are described below.

Maintaining existing coverage

The antennas inside, for example, street furniture sites are generally of 2 physical build designs – 'Single Stack' and 'Dual Stack'. The former describes when the set of antennas are all at the same height. The latter describes a site with 2 sets of antennas one above the other.

The 'Dual Stack' is by far the preferred option. This is due to a number of factors including greater flexibility & control for different technologies and providing optimum service performance to customers.

Site upgrades such as network consolidation between Vodafone and Telefonica and/ or new 5G technologies facilitate a Single Stack structure being upgraded to a Dual Stack structure. In a straight swap scenario at equal height the new lower aperture antennas would be lower than they were originally - resulting in significantly reduced coverage. To ensure existing coverage is maintained the whole structure needs to be increased in height.

Clutter changes

A more extreme example is when the local clutter or tree lines have changed, or are such that the mobile signals are blocked, resulting in lower quality calls and downloads for mobile device users. To provide sufficient services to customers height increases on existing masts or additional new masts are required. The former is the preferred option in many cases.

5G Technologies

5G New Radio technologies operate in higher frequency bands than older technologies. Since it operates at higher frequencies where attenuation of the radio signal is naturally higher, and the effects of clutter are greater it will normally require a higher structure to achieve the same coverage footprint. Furthermore, unlike traditional technologies 5G uses adaptive beamforming technologies to increase capacity and data speeds to the user. For effective beamforming the antenna will normally need to be mounted higher than conventional antennas. These factors drive a require for an increase in antenna height in 5G

International Commission on Non-Ionizing Radiation Protection (ICNIRP) Compliance

The addition of new technologies and mast sharing affects ICNIRP compliance, one of the health and safety requirements for a cell site, a higher minimum mast height is required in some cases.

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5G Services

As 5G technology is deployed across the country more and more services will become available and our lifestyles, economy and even the way we commute will be transformed. Additional base stations and upgrades to existing ones will be needed to meet this demand and improve the quality of service.

Practical uses of 5G

Two areas where these benefits are becoming evident are education and health,

The relationship between 5G and education is evolving at a massive rate with educators exploring the relevance of Virtual Reality (VR) technologies for education and training. Crucially, VR can support remote learning, allowing students a presence in the classroom even when working elsewhere.

5G's ability to deliver real-time information (low latency), ultra-fast speeds (critical for high-definition images and video), increased capacity and heightened security will also allow learning on the job, thanks to technologies such as Augmented Reality (AR) goggles, which can give engineers real-time instructions on how to fix a machine on a production line, for example.

Health care is undergoing a rapid transformation, patients across the country are now becoming accustomed to relying on remote healthcare services such as virtual GP appointments, and ordering online deliveries of essential medical supplies.

5G will prove critical in providing the infrastructure required to deliver remote health services over the next decade. 5G's fast and secure services will be fundamental in scaling the patient benefits of remote healthcare and keeping medical records protected and private. Trials have shown that connecting ambulance crews to expert resources using 5G allows paramedics to work with doctors and conduct specialist procedures in real time whilst on the road.

Health concerns

Various international assessments have concluded that below the International Commission on Non-Ionizing Radiation (ICNIRP) Guidelines there is no evidence of adverse health effects for wireless networks (including 5G).

In January 2019 the Finnish Radiation and Nuclear Safety Authority (STUK) concluded that:

In the light of current information, exposure to radio frequency radiation from base stations will not rise to a significant level with the introduction of the 5G network. From the point of view of exposure to radio frequency radiation, the new base stations do not differ significantly from the base stations of existing mobile communication technologies (2G, 3G, 4G).'
<https://www.stuk.fi/aiheet/matkapuhelimet-jatukiasemat/matkapuhelinverkko/5g-verkon-sateilyturvallisuus>

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In the UK Ofcom, the regulator for the communications services, undertook measurements of electromagnetic fields (EMFs) around 5G base stations. In 2020 they noted: "In all cases, the measured EMF levels from 5G-enabled mobile phone base stations are at small fractions of the levels identified in the ICNIRP Guidelines" https://www.ofcom.org.uk/data/assets/pdf_file/0015/190005/emf-test-summary.pdf

In Norway the Norwegian Radiation and Nuclear Safety Authority (DSA), noted:

'The overall research shows that the radiation from wireless technology is not hazardous to health, as long as the levels are below the recommended limit values. This is the prevailing view among researchers in many countries today, and it is supported by the EU Scientific Committee. We have used cell phones and radio transmitters for decades and much research has been done on how this affects our health. Risk factors of importance to public health have not been found. With the knowledge we have today, there is no need to worry that 5G is hazardous to health.' January 2019
<https://www.dsa.no/temaartikler/94565/5g-teknologi-og-straaling>

In the light of concerns about 5G signals from some members of the public the UK Health Security Agency (UKHSA) commented in 2019:

"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"
<https://www.gov.uk/government/publications/5g-technologies-radio-waves-and-health/5g-technologies-radio-waves-and-health>.

In 2020 the ICNIRP updated their safety guidelines to include further restrictions for frequencies used for 5G services. ICNIRP Chairman, Dr Eric van Rongen stated 'the new guidelines provide better and more detailed exposure guidance in particular for the higher frequency range, above 6 GHz, which is of importance to 5G and future technologies using these higher frequencies. The most important thing for people to remember is that 5G technologies will not be able to cause harm when these new guidelines are adhered to.' https://www.icnirp.org/cms/upload/presentations/ICNIRP_Media_Release_110320.pdf.

In 2020 the World Health Organisation commented on 5G stating: "Provided that the overall exposure remains below international guidelines, no consequences for public health are anticipated"
<https://www.who.int/news-room/q-a-detail/5g-mobile-networks-and-health>.

In common with all mobile phone base stations, Cornerstone sites with 5G technology will be checked and certified for ICNIRP compliance.

For further information please contact

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Health Summary

Radio base stations and handsets use electromagnetic fields (EMFs) to transfer information and make communication possible with mobile phones and devices. EMFs are used for television and radio transmissions, by the police, fire and ambulance services, by taxi firms and public utilities. EMFs are also used for a wide range of personal and commercial equipment from electronic car keys, WiFi equipment and baby monitoring devices to shop security tag systems. They are also produced by household electrical appliances like the fridges, vacuum cleaners or electric shavers.

The UK Health Security Agency (UKHSA) have noted that "Exposure to radio waves is not new and health-related research has been conducted on this topic over several decades. In particular, a large amount of new scientific evidence has emerged since the year 2000 through dedicated national and international research programmes" <https://www.gov.uk/government/publications/5g-technologies-radio-waves-and-health/5g-technologies-radio-waves-and-health>. After a thorough review of the available scientific findings, the World Health Organisation reported: "To date, the only health effect from RF fields identified in scientific reviews has been related to an increase in body temperature (> 1 °C) from exposure at very high field intensity found only in certain industrial facilities, such as RF heaters. The levels of RF exposure from base stations and wireless networks are so low that the temperature increases are insignificant and do not affect human health" World Health Organisation, Fact Sheet 304, Base stations and wireless technologies, 2006. In addition, the WHO notes that "Based on a recent in-depth review of the scientific literature, the WHO concluded that current evidence does not confirm the existence of any health consequences from exposure to low level electromagnetic fields". <http://www.who.int/pehemf/about/WhatIsEMF/en/index1.html>. In 2020 the World Health Organisation published information on 5G commenting that: "Provided that the overall exposure remains below international guidelines, no consequences for public health are anticipated" <https://www.who.int/news-room/q-a-detail/5g-mobile-networks-and-health>.

The Advisory Group on Non-ionising Radiation (AGNIR) summarised that "although a substantial amount of research has been conducted in this area, there is no convincing evidence that RF field exposure below guideline levels causes health effects in adults or children." "Health Effects from Radiofrequency Electromagnetic Fields – RCE 20", 2012

In 2019 the UK Health Security Agency noted: "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" <https://www.gov.uk/government/publications/5g-technologies-radio-waves-andhealth/5g-technologies-radio-waves-and-health>.

Radio base stations are designed to comply with the stringent, precautionary public exposure guidelines set out by ICNIRP (International Commission on Non-Ionizing Radiation Protection). These guidelines have been developed following a thorough review of the science including both thermal and non-thermal effects. UK radio base station installations have been surveyed by independent bodies and found to be hundreds and sometimes thousands of times below these guidelines.

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In 2020 ICNIRP updated their safety guidelines noting that: 'we looked at the adequacy of the ones we published in 1998. We found that the previous ones were conservative in most cases, and they'd still provide adequate protection for current technologies'

https://www.icnirp.org/cms/upload/presentations/ICNIRP_Media_Release_110320.pdf

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Classification: Unrestricted

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Cornerstone Community Information Sheet

Safety Guidelines on electromagnetic fields from antennas

Radio frequency fields are a type of electromagnetic field. Virtually everyone in the modern world is exposed to electromagnetic fields generated by man-made sources. These include TV and radio transmissions, communications by the emergency services, medical and factory equipment, electronic car keys, baby-listening devices, WiFi and any household appliance that uses electricity.

Various regulations and guidelines apply to the construction and operation of radio base stations, including those that serve to protect health and safety.

All installations are designed to comply with the precautionary International Commission on Non-Ionizing Radiation Protection (ICNIRP) public exposure guidelines as adopted in a European Union recommendation. The UK Government and the UK Health Security Agency support this view.

Mobile phone base stations are generally composed of a cabin or cabinet, which houses the electrical equipment that generates the radio signal, a supporting structure such as a tower or pole and a set of antennas. Only the antennas emit radio waves. As one moves away from the antenna, the strength of the radio wave falls off very rapidly and as the strength decreases, so does the radiofrequency exposure level. Closer to the antennas, there is an area, or volume, where it is possible that ICNIRP guidelines for the public may be exceeded. This is known as the ICNIRP Public Zone and measures are taken, in the form of antenna positioning, signage and physical barriers, to prevent inadvertent access to this area by the public.

The extent of the zone will vary from site to site and is dependent on power input, distribution of the radiofrequency fields and the frequency range.

Clear signage at mobile phone operator sites will indicate restrictions on access and these restrictions should always be observed. The signage provides the relevant contact details for further advice.

How the guidelines are established

Many countries have adopted international guidelines suggested by ICNIRP. These guidelines, which have the formal backing of the World Health Organisation, were developed following a thorough review of the science and took into consideration **both thermal and non-thermal effects**. They are designed to protect all sectors of the population, 24 hours a day, wherever they are in relation to a radio base station. The guidelines are made up of two parts: the first is based on established and proven science; the second part incorporates a safety factor. In this way, the guidelines come with a built-in precautionary element.

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In 2020 the ICNIRP updated their safety guidelines, Dr Eric van Rongen stated 'When we revised the guidelines, we looked at the adequacy of the ones we published in 1998. We found that the previous ones were conservative in most cases, and they'd still provide adequate protection for current technologies...However, the new guidelines provide better and more detailed exposure guidance in particular for the higher frequency range, above 6 GHz, which is of importance to 5G and future technologies using these higher frequencies'.

https://www.icnirp.org/cms/upload/presentations/ICNIRP_Media_Release_110320.pdf

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Cornerstone Community Information Sheet

How it Works

An introduction to how a network of mobile phone base stations operate.

Mobile phone base stations are needed in areas where people work and live to ensure that they can access digital services, keep in contact with friends, family and work colleagues as well as new connectivity solutions such as Internet of Things. Without ongoing improvements to connectivity which includes measures such as upgrading existing base stations, areas will become digital black spots where lack of connectivity prevents economic development, hinders local services and frustrates efforts to keep vulnerable members of the community healthy and safe.

Base stations are made up of three main elements. The cabin which contains the equipment used to generate the radio signal. A supporting structure such as a mast which holds the antennas in the air and the antennas themselves. Only the antennas emit radio signals.

Many other everyday items also use radio signals to send and receive information, such as television and radio broadcasting equipment and two-way radio communications.

Base stations are connected to each other and telephone exchanges by cables or wireless technology, such as microwave dishes, to create a network. The area each base station covers is called a cell.

Each cell overlaps with its neighbouring cells to create a continuous network. The size and shape of each cell is determined by the features of the surrounding area, such as buildings, trees and hills, which can block signals. When people travel between cells, the signal is transferred between base stations without a break in service. However, each base station can cover a certain area only and can only handle a limited number of calls at once. As mobile phones and devices become more popular more base stations are needed to ensure continuous coverage.

All UK mobile phone base stations are designed to comply with the stringent International Commission on Non-Ionizing Radiation Protection (ICNIRP) General Public Exposure guidelines recommended by the UK government and the European Union. These guidelines also have the formal backing of the World Health Organisation.

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Cornerstone Community Information Sheet

Coverage and Capacity

Mobile phone base stations are needed in areas where people work and live to ensure that they can access digital services, keep in contact with friends, family and work colleagues as well as new connectivity solutions such as Internet of Things. Without ongoing improvements to connectivity which includes measures such as upgrading existing base stations, areas will become digital black spots where lack of connectivity prevents economic development, hinders local services and frustrates efforts to keep vulnerable members of the community healthy and safe.

Individual base stations can only handle a certain number of calls or data downloads. If the number of calls or data requests exceeds the base stations capability then local network users will experience a reduction in data download speeds and reduced call quality. We call areas without good coverage 'blackspots' and all mobile phone networks suffer from them. You can experience them wherever you are, even in cities with lots of base stations. Mobile network operators monitor call quality so they are aware of any necessary improvements.

To keep up with growing demand we need to upgrade existing base stations or build new base stations. Upgrading a site will increase the capacity of a base station. Capacity is the maximum data or calls that can be processed by a base station. An upgrade can be done in a number of ways, often by redeveloping the site to enable an increase in the number of technologies, or increasing the number or height of the antennas.

However, even after these upgrades, in some busy areas the demand for services can still exceed the capacity of the local base station. In this situation we may need to look into developing a new base station, resulting in improved service for our customers.

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