



To:
Planning Infrastructure Division
Ministry of Housing, Communities and Local Government
3rd Floor, Fry Building
2 Marsham Street
London
SW1P 4DF

By email to: MobilePlanningConsultation@communities.gov.uk

Cc: SDNPA

Date: 04-11-19

Dear Sir/Madam,

Proposed reforms to permitted development rights to support the deployment of 5G and extend mobile coverage

These are the comments of the Friends of the South Downs (South Downs Society) on the above mentioned proposal. The Society has over 1,500 members and its focus is the conservation and enhancement of the landscape of the South Downs National Park (SDNP) and its quiet enjoyment. We comment on development proposals made in, or close to, the SDNP.

Thank you for giving us the opportunity to comment on this plan. Our comments are set out as attached.

Yours faithfully,

Victor S Ient, MSc.,
Policy Officer

SOUTH DOWNS SOCIETY

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"Friends of the South Downs" is the brand name of the South Downs Society, a company limited by guarantee, registered no. 319437 and is a registered charity no. 230329. The Society is an independent charity which relies on member subscriptions and gifts in wills.

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Proposed reforms to permitted development rights (PDRs) to support the deployment of 5G and extend mobile coverage

Introduction:

Our response focuses on National Parks – in particular the South Downs National Park. In this respect we have in mind:

The aims and purposes of national parks as set out in law:

The 1949 National Parks and Access to the Countryside Act and the Environment Act 1995 which the statutory purpose is to:

1. Conserve and enhance the natural beauty, wildlife and cultural heritage
2. Promote opportunities for the understanding and enjoyment of the special qualities of national parks by the public

When national parks carry out these purposes, they also have the duty to:

- Seek to foster the economic and social well-being of local communities within the national parks

NB: When the aims and purposes conflict with each other, then the **Sandford Principle** should be used to give more weight to conservation of the environment.

Opening Remarks:

Do we want the **countryside littered with new masts?** The effect on the countryside, and especially protected landscapes, should be considered before the PDRs are relaxed.

5G networks require more transmitter masts than previous technologies :

<https://www.bbc.co.uk/news/uk-49480560>

Currently, and after 20 years of development, the UK still hasn't achieved a reasonable level of 4G coverage and in rural areas it is still very poor. So, why the rush into 5G in rural areas without a technical implementation plan? See:

<https://www.ispreview.co.uk/index.php/2019/08/new-study-slams-lack-of-100-uk-geographic-4g-mobile-coverage.html>

Preamble:

The primary focus for 5G is higher data speed and IoT (Internet of Things). 5G is also the combination of 2G, 3G, 4G and specific 5G standard into a package where it can be used in combinations.

The specific 5G frequencies are higher than others (4G etc). Therefore they need line of sight and do not work as well in bad weather. Most 5G cells will be like WiFi and in principle one doesn't need high masts. The only reason for higher masts (from a 5G point of view) is to achieve line of sight. Mobile operators may argue that higher masts would help all the other "G's".

5G will need even more transceivers and more antennas (and therefore masts). For each frequency one needs three transceivers and three antennas, thus masts will very get crowded. Higher masts will increase antenna capacity.

Telecommunications Clutter in the Countryside

Unfettered development of masts in protected areas will be a disaster for our beautiful countryside. What is the point of providing the highest planning protection for National Parks when the area could be littered with telecommunications clutter?! Keeping the planning rules as they are would ensure mobile operators would effectively have to comply with the purposes of the National Parks and protected landscapes.

Lack of Mobile Strategy in the Countryside

Sadly, the government have not previously not put forward a strategy for the provision of mobile telecommunications in the countryside. Many of the problems of the 1980s when mobile base stations were first deployed still exist today. Figures differ but it is quite clear that there are many areas where 4G is currently not provided. A sad indictment after over 30 years of deployment. There is an opportunity for mobile companies to share existing masts which would improve coverage with very little extra capital expenditure.

The deployment of 5G in the countryside is not a simple matter. The rollout of 5G in urban and city areas is relatively simple.

5G technology fundamentally requires a small cell size. The transceiver/transceivers do not need to be erected on high masts. They can be attached to buildings & lampposts. According to Vodafone & Ericsson they can even be installed on the underside of footway & roadway manholes.

However, providing 5G in rural areas is a different matter. A strategy is needed before any relaxation of permitted development rights occurs. This strategy should cover:

1. Provision of 5G transceivers on existing 4G masts linked together with removal of existing redundant 4G or other equipment.
2. Provision of 5G in villages and small towns which are already covered by the provision of fibre cable. In this case similarly the transceiver could be attached to existing buildings such as shops, business premises, village halls, redundant red telephone boxes (as suggested by Vodafone) and lampposts where they exist.
3. Provision of 5G actual business centres and industrial estates. Many existing farmyard buildings have already been turned into business centres and there is an opportunity to erect the transceiver needed for 5G on the side of the business premises.
4. Extending new underground fibre cable to villages and rural business centres which don't already have fibre provision. Then there can be rapid deployment of the necessary transceivers.
5. Installation of underground fibre cable along the side of rural roads whether they be trunk roads or A or B roads. This will provide the opportunity for the installation of transceivers in new locations such as; in laybys, garage/fuel stations and on existing lampposts where they exist.
6. Use existing infrastructure: for example, phone boxes, (which are already connected to mains power), are a useful tool to boost demand on high streets and in rural areas: <https://www.ft.com/content/0334f1e8-fc6b-11e8-ac00-57a2a826423e>

We believe the above would provide for an unobtrusive, rapid and effective deployment of 5G to help rural businesses.

During the implementation of the above strategy regular surveys should be undertaken to ascertain the level of new coverage for 5G. This will allow analysis of what should be done about those areas not yet covered.

Following the above, and before further 5G roll out is undertaken, the government should publish a *technical strategy for 5G in rural areas*. This strategy must prove or disprove the proposals that higher masts will give significantly higher coverage over a wide radius for 5G as well as looking at other issues.

Currently 5G transmission is only effective over a small radius as compared with 4G coverage. The government must provide absolute proof to show that higher masts with higher power will cover large cell areas. Once this is known a further consultation should be undertaken to consider the best way of any further deployment expanding the network. High on the list of considerations should be the protection of the landscape especially in protected areas and national parks.

Fibre is needed to service 5g masts

The provision of fibre is not addressed in the consultation.

If there were cooperation from BT who have a monopoly in the 'local loop' greater penetration of fibre into the countryside could be achieved. *Please note that fibre is essential for the deployment of 5G.* The government could direct this BT monopoly to open up its duct for other suppliers to install fibre. Alternatively, the government could direct BT to provide fibre for 5G base stations in rural villages and business centres. Currently there are no incentives or regulations that forces BT to share its fibre network.

With the proposed relaxation of PDR there will be no incentive to underground the necessary fibre cable that will be needed to service new 5G masts. Therefore, we are likely to see a significant rise in the erection of telegraph poles with black fibresheathed cable slung between them for mile after mile:

Lack of fibre in rural areas: [The barriers to 5G deployment in the UK](#) By [Hannah Williams](#) Online Editor, Computerworld | 16 AUGUST 2019 3:00 BST:

Fibre backhaul is essential for supporting 5G due to its scalability and security requirements, which are used to manage the vast amount of mobile traffic. Sites with existing 3G and 4G microwave or satellite backhaul are not suitable for 5G because they cannot support the amount of traffic 5G is expected to generate.

There need to be a survey of existing 'dark fibre.' This could provide high speed internet solutions for rural business. For example much of the provision made for rural schools in the '90s is un-used.

Quote from Vodafone: "for any meaningful rural coverage to happen with 5G, BT has to install fibre cables first". See: <https://tech.newstatesman.com/emerging-technologies/5g-rural-areas-uk>

Professional Opinion

Rural areas can get reliable access to 5G without the need for towering 50m high masts, according to a telecoms expert:

[Professor Maziar Nekovee at the University of Sussex](#) and former head of 5G research at Samsung's UK division claimed that the technical advantages of next-generation mobile networks mean huge masts should not be needed.

<https://www.telegraph.co.uk/technology/2019/08/30/britain-doesnt-need-taller-phone-masts-improve-mobile-signals/>

NB: In a 2016 paper, **scientists from nine countries** including the US concluded that only government subsidies would turn 5G into a real solution for rural home broadband issues.

5G requires smaller cell sizes than 4g - How are these to be deployed?

Evidence from PricewaterhouseCoopers: The major cost comes from installing small cells, which are needed to help transmit the 5G signal over long distances. Research from professional services firm PricewaterhouseCoopers (PwC) called for a "small cell revolution" to help make it easier and more cost-effective to roll out the infrastructure.

<https://www.smartcitiesdive.com/news/5g-digital-divide-urban-rural-communities/545211/>

Mast Heights:

Currently, under the Electronic Communications Code, the current height restriction for masts is 25 metres – and 20 metres in protected areas. The proposed relaxed PDR removed height restrictions and says: "Increase the height of existing masts to the relevant permitted height without prior approval" It is understood 50m masts are proposed. This is very worrying:

https://www.theregister.co.uk/2019/08/29/huge_mobile_masts_coming_to_a_hill_near_you_soon/

<https://metro.co.uk/2019/08/27/huge-5g-phone-masts-tall-nelsons-column-built-british-countryside-10638381/>

Shared Rural Network (SRN):

All four mobile network operators have agreed to work together to deliver a Shared Rural Network to improve coverage: <https://www.choose.co.uk/news/2019/mobile-operators-shared-rural-network-4g-coverage/>

Mobile Operators Strike UK Network Sharing Deal for Rural Coverage: Under the deal a new infrastructure company will be established to help build masts in remote areas: <https://www.ispreview.co.uk/index.php/2019/05/mobile-operators-strike-uk-network-sharing-deal-for-rural-coverage.html> and <https://www.telegraph.co.uk/business/2019/03/31/bid-boost-rural-mobile-coverage/>

Mobile operators strike £1bn mast sharing deal to improve rural 4G: <https://www.techradar.com/uk/news/mobile-operators-strike-pound1bn-mast-sharing-deal-to-improve-rural-4g>
