National Infrastructure Commission: Call for Evidence

Response from Mobile UK

February 2017

About Mobile UK

1. Mobile UK is the trade association for the UK's mobile network operators - EE, Telefonica UK (O2), Three and Vodafone. Our goal is to realise the power of mobile to improve the lives of our customers and the prosperity of the UK as a whole.
2. As mobile increasingly becomes the device of choice for running daily life both at home and at work, customers, quite rightly want better coverage, more capacity and greater capabilities. Our role is to identify the barriers to progress, and work with all relevant parties to bring about change, be they Government, regulators, industry, consumers or citizens more generally.

Introduction

3. Mobile UK welcomes the opportunity to respond to the National Infrastructure Commission's *National Infrastructure Assessment*.
4. Mobile UK welcomes the creation of the National Infrastructure Commission (NIC). We also agree with the statement in the recent *Connected Future* report that mobile connectivity is critical to the growth of our economy and that the Government must play an active role as a digital champion.
5. Mobile network operators are committed to meeting the rising demand from customers for more capacity and coverage throughout the UK. However, it is dependent on many factors and stakeholders across national government, local authorities and the devolved nations to ensure that the environment for mobile infrastructure is built to allow rapid deployment and limits barriers.
6. Mobile UK has previously submitted evidence to the NIC and stands ready to assist further to exand on points made in this submission.
7. This submission sets out Mobile UK's priorities for the National Infrasatructure Assessment (NIA) and, in addition to the set questions of the Call for Evidence, we have outlined our key priorities.

National Infrastructure Assessment

8. Mobile UK supports the ambition set out by the National Infrastructrure Commission to produce an NIA once in every Parliament, setting out a comprehensive assessment of the UK's long-term infrastructure needs on a 30-year time horizon.
9. Mobile UK also strongly supports the NIC's assertion that the NIA should span across national and devolved governments, as well as regulators.

10. Mobile UK welcomes the NIC's inclusion of digital communications as an individual sector of focus.

Mobile Communication – Critical Infrastructure

11. Mobile communication is part of the UK's critical infrastructure and is integral to people's lives. At the end of December 2015, there were 85.3m mobile connections (79.7m active mobile handsets and 5.6m active mobile broadband connections)[1]. 95% of the adult population has a mobile phone.

12. The increase in coverage, capability and capacity of mobile networks has led to an explosion in demand for mobile data. 4G is driving greater volumes of data usage. A total of 106 petabytes was sent over all mobile networks in June 2016, a 44% increase over the previous year. The average volume of data consumed per subscriber now stands at 1.3 gigabytes per month up from 0.9 gigabytes in 2015.[2]

13. Improved 4G services, and the rollout of 5G has the potential to increase this demand further. It is expected that 5G will form the critical backbone of many of the UK's key services such as e-health, the internet of things and autonomous vehicles.

14. Mobile network operators have played a central role in driving this progress by continually investing in their networks, value added services, and subscriber acquisition. In the current cycle the mobile network operators are investing around £2 billion per annum in new coverage, capacity and capability. In turn, business and consumer customers have shown extraordinary ingenuity in harnessing the power of mobile, to be more creative and productive, to offer new services, and to improve lives.

Communications Infrastructure

15. It is our experience that the best results are achieved if Government, mobile network operators and other stakeholders work cooperatively. Changes across a broad range of policy need to be considered

    a. Reform to planning regulations for telecommunications apparatus, enhancements to Permitted Development Rights

    b. Reform to planning regulations for housing and other construction, requiring developers to make greater provision for electronic communications

    c. Other improvements within local authority planning (LPA): updating planning guidance, better training and more resources for planning officers, so that LPAs do not become a bottleneck

    d. The business rates regime: make marginal investment more viable with business rates exemptions in selected areas (for example National Parks)

    e. Access to public assets and other landowners: encourage Government to make it easier for mobile network operators to access suitable locations on which to place their apparatus

    f. Develop partnership schemes for the parts of the country where there is no commercial business case but where additional societal gains can accrue from wider coverage (for example, in the efficient delivery of public services)

    g. Coordination across Government: all measures will be much more effective if there is

[1] Ofcom – Communications Market Update, Q4 2015

[2] Ofcom – Connected Nations, 2016

good coordination between government departments and between the Westminster Government and the devolved governments.

16. When looked at from an international perspective the UK's average mast height is low bearing in mind that the ability to cover a wider area depends on how high a mast can be built. In the UK, the average mast height is 17m. In France, the comparable figure is 30m, in Sweden it is over 70m. It is also disproportionately expensive to build mobile infrastructure in the UK.[3]

17. In addition to masts it should also be noted that small cell antennae form a significant and growing part of the infrastructure required to deliver mobile connectivity and coverage. In cities, to maintain bandwidth and capacity an extraordinarily dense network of small cells is required in addition to existing mobile infrastructure. As demand increases as more and more devices come online this will be exacerbated. In London alone it is estimated that as many as 500,000 small cells will be needed to support 5G services, a number far greater than the UK's entire existing stock of 37,000 mobile masts. To ensure bandwidth and capacity keep up with current and future demand further reform is required in the legislation that underpins digital communications infrastructure. This is vitally important if the UK is to match its goals and remain a leader in this field.

18. It should be noted that Mobile UK welcomes recent reforms to planning in England, and consultations in Northern Ireland and Scotland on similar reforms, alongside the Welsh Government's announcement of a Mobile Action Plan for Wales, but these changes only provide additional height and rights within the existing framework. The infrastructure that will be required for 5G networks is likely to be significantly different from what is currently required for 4G. This is not to suggest that maximum heights and numbers of apparatus will always be required but flexibility to deploy infrastructure is equally important.

19. It is vital that when the need for reform is identified it is accelerated to keep up with rapid changes in technology and usage. For example, reform to the Electronic Communications Code, currently being progressed as part of the Digital Economy Bill, was intended for 4G rollout. With 5G round in prospect it is important reforms put in place now are kept under review and adaptable to future demands.

20. Mobile coverage needs to be at the forefront of strategy and planning both at a national and local level. Pro-connectivity policies should be woven into Local Plans and growth strategies and linked across national and subnational bodies, including Local Enterprise Partnerships. It is encouraging that the Government is consulting, as part of its recent Housing White Paper, on requirements on local authorities to have planning policies setting out how high quality digital infrastructure will be delivered in their area, and accessible from a range of providers.

Answers to Specific Questions

3. How should infrastructure be designed, planned and delivered to create better places to live and work? How should the interaction between infrastructure and housing be incorporated into this?

Mobile coverage and capacity must be hard-wired into the planning process. New developments create additional demand on mobile networks impacting upon capacity and bandwidth. It cannot be the sole responsibility of the communications providers but must be a partnership developed at the inception of development planning. Mobile UK supports the NIC's assertion that the mobile network operators and local authorities should work together to build a better picture of local area requirements combined with network expertise.

[3] Mobile UK

To achieve this there must be strong commitment at the local level as well as the national level to work with mobile network operators. Local authorities must also show leadership and include pro-connectivity policies as part of their Local Plans and take a 'joined-up' approach to telecoms provision and planning applications, especially considering local economic development, sustainability, and social inclusion considerations.

The Government and the NIC also need to take a stronger approach to the timely adoption of Local Plans to provide certainty to mobile network operators. At present a significant number of councils across the country are still to adopt their local plans. Mobile network operators invest significant resources into the quality of coverage and capacity of their networks. Without accurate projections of local council's growth plans it effectively leaves mobile network operators in the dark as to where demand will come from. Better adoption rates of local plans will provide a better picture of future demand and therefore where future capacity investment will be needed.

Further consideration is required around 'emergency works' or the need for temporary sites. Often mobile network operators are served a Notice to Quit (NTQ) which call on mobile network operators to remove existing infrastructure on new developments with minimal prior notice. Alternative sites are often difficult to find or fail to provide coverage to the original footprint. Even if a suitable site is found it will often result in a break in service as necessary planning permission is sought. In addition, the knock-on effect to other nearby sites can result in cuts to capacity due to the removal of essential network infrastructure or increased traffic to cover the lost equipment.

Mobile UK believes that the planning and regulatory regimes continue to require reform to ensure that the UK's current and future communications requirements are considered.

Mobile UK stands ready to work with the NIC, national and devolved governments and other stakeholders to consider further necessary reform. However, it is important that there is strong leadership and Mobile UK and the mobile network operators would welcome the NIC, with its long-term focus and deep understanding of the UK's future infrastructure needs, adding its powerful voice.

10. What changes could be made to the planning system and infrastructure governance arrangements to ensure infrastructure is delivered as efficiently as possible and on time?

Mobile UK believes that the current planning and regulatory regime continues to require reform, not only to enable mobile network operators to meet their current network obligations but also to provide the flexibility to ensure that future requirements for mobile coverage are met.

As stated previously the mobile network operators are investing more than £2 billion each year in new coverage, capacity and capability.

Mobile UK believes due to the incremental and evolutionary improvements to mobile technology planning must be looked at more broadly and the following needs to be considered:

- Reform to planning regulations for telecommunications apparatus, enhancements to Permitted Development Rights
- Reform to planning regulations for housing and other construction, requiring developers to make greater provision for electronic communications
- Other improvements within local authority planning (LPA): updating planning guidance, better training and more resources for planning officers, so that LPAs do not become a bottleneck
- Access to public assets and other landowners: encourage Government to much more to make it easier for mobile network operators to access suitable locations on which to place their apparatus

The planning system does not encourage investment in infrastructure and often hinders the upgrading of existing infrastructure.

It must be noted that one of the key issues in assessing the effectiveness of the current system is not percentage approval rates, which are generally good. Rather it is the time/cost/resource it takes to navigate the system. It means the industry is building the infrastructure the regulations allow rather than the infrastructure that will deliver the coverage UK consumers and business are demanding. Doing nothing is not an option.

Additionally, changes to the planning system, should, as far as possible, be future proofed to allow for new developments in technology, future releases of spectrum for mobile services and new demands for connectivity in a rapidly changing world.

13. How will travel patterns change between now and 2050? What will be the impact of the adoption of new technologies?

Mobile UK cannot project how travel patterns will change but it is clear that mobile connectivity can act as an enabler to more efficient, safer and intelligent transport solutions. Mobile technology can assist in the monitoring and management of traffic flows and direct drivers to avoid traffic thus limiting congestion and reducing commute times. In-car connectivity that calls emergency services automatically in the event of a collision can help to save lives while also providing accurate location data to the emergency services to provide assistance and clear blockages to the transport network.

Mobile connectivity is being embraced by public transit systems to connect vehicles to their operations centres and to the public themselves providing real-time route and schedule management. Mobile broadband also increases productivity as customers and businesses can utilise transit time on rail and public transport to conduct business.

However, it is important to note that to fully realise mobile connectivity on the railways and highways better arrangements and channels of communications are required with the respective bodies.

17. What are the highest value infrastructure investments to secure digital connectivity across the country (taking into consideration the inherent uncertainty in predicting long-term technology trends)? When would decisions need to be made?

Mobile network capacity is not enhanced by a singular one-off investment, such as a new runway. The mobile network operators are currently investing £2 billion every year to upgrade their networks to improve coverage and customer experience. Mobile network operators will need to invest continually in new capacity, coverage and technologies, as will the transmission providers, to ensure that the sector has the necessary bandwidth to connect mobile masts into the wider network.

Ofcom must continue to release spectrum in a timely manner to meet current and future demand and capacity. There must be a fair and transparent process for allocating spectrum but it must be recognised that higher spectrum costs, both in auction and license fees, impacts on investment potential. The UK has one of the most highly competitive markets and this has proved an efficient engine for economic growth and participation. However, the sector is one of the most intensively regulated. It is important that the balance of regulation is optimal to protect the customer and to keep pace with the advancement of mobile technologies and the internet. Flexible, light touch regulation creates the right environment for continued mobile sector investment and innovation.

Mobile UK also calls on the NIC to take a leadership role in ensuring that the Government and devolved institutions consider mobile infrastructure and coverage when investing in significant public infrastructure. For instance, the high-speed rail project, HS2, has recently passed its third reading in the House of Lords and is expected to receive Royal Assent later this year. With construction yet to begin it provides a unique opportunity to build in mobile infrastructure as it is constructed rather than aiming to retrofit once it is complete, as happened with the Channel tunnel and is now happening in the London Underground.

Mobile infrastructure needs to be hard-wired into national and local government strategic thinking from the outset.

18. Is the existing digital communications regime going to deliver what is needed, when it is needed, in the areas that require it, if digital connectivity is becoming a utility? If not, how can we facilitate this?

Mobile UK agrees with the NIC that mobile connectivity is an essential service. However, we would disagree with the premise that the mobile sector is a utility such as gas or water because operators seek to differentiate themselves through the quality of the service they provide, e.g. extent of coverage, data speeds, and value added services. This has profound implications for the way in which the sector, which has always been highly competitive, is regulated.

Throughout this response, Mobile UK has proposed a broad range of measures to improve the 'digital communications regime'. While mobile network operators are committed to keep investing in more capacity and coverage, there is no doubt that the task would be made easier with greater collaboration and co-operation with our stakeholders.

We all have a stake in the future of mobile networks. Commercial, personal and Governments are identifying many new applications for mobile platforms, such as e-health, connected cars, pollution management, energy management and water conservation. But none will realise its full potential without delivering the nuts and bolts of the underpinning infrastructure. Mobile UK is willing to work with anyone to identify barriers and bring forward practical solutions that will ease the task of delivering a mobile signal wherever and whenever it is required.