NATIONAL POLICY – SUPPORTING MOBILE CONNECTIVITY

SUPPORTING MOBILE COMMUNICATIONS

Background

A.1   Telecommunications is a public utility that was provided by the Post Office until the decision was taken in the early 1980's to privatise this service. This was achieved through the Telecommunications Act 1984 (the 1984 Act) and it was under Section 7 that the original mobile network operators (MNO's) were granted licenses. The Communications Act 2003 (the 2003 Act) ended the licensing regime established by the 1984 Act, but the operators retained their special status as Electronic Communications Code Network Operators (Code Operators, previously Telecommunications Code Systems Operators). The 2003 Act widened the opportunity for operators to become Code Operators, a key criteria being the public benefit of the network provided.

A.2   Although the MNOs are private companies, they all therefore provide a public service and one which is recognised as being essential to a modern economy. Setting aside the large contribution made by the electronic communications industry to the economy through direct employment and the sale of products and services, the local benefits will be varied and considerable. In addition, as the technology continues to improve and the range of services become more varied and innovative, the benefits will also expand at a fast pace. A connected and modern smart phone is now able to access thousands of applications, which means that it is almost impossible to now quantify or specify all the potential benefits.

Growth of Mobile Connectivity

A.3   Since the first mobile phone call was made in the UK in 1985, the mobile industry has delivered huge benefits to consumers and the wider UK economy. New technologies - or generations - have been introduced roughly every 10 years, each offering improved services compared with previous generations:

- 1G: the first generation of 'cellular' mobile phones, which used analogue radio transmission and supported voice calls;

- 2G: the second generation of mobiles, which used digital transmission and allowed for digital phone calls and messaging;

- 3G: the third generation of mobile communications enabled faster data services than those available on 2G networks, which led to the first consumer friendly mobile broadband internet experience for users; and

- 4G: the fourth generation of mobile communications is a more data-oriented network than its predecessors and is the first all-Internet Protocols mobile communications system. The main advantage of 4G services compared with previous generations are that they offer faster download speeds and quicker response times (latency).

- 5G: The next generation of mobile connectivity, will deliver a step change of ultrafast, ultra-low latency, reliable, mobile connectivity, that is able to support ever larger data requirements, as well as wide-ranging new applications including machine to machine applications - intelligent machines that require no human input (e.g. advanced manufacturing). 5G will deliver these flexible networks by making use of multiple bands of spectrum (the means by which mobile signals are transmitted). The mobile infrastructure for 5G will be very different, based around 'small cell' radios as well as a dense fibre network to provide backhaul

A.4   For 5G the Government recognises that the successful and early deployment of full 5G networks will require a step change in mobile infrastructure investment and significant coordination and an evolution of regulatory frameworks, including support of the town planning system.

Growing public demand

A.5   The growth and technological change in mobile connectivity is reflected in the Ofcom's Communications Market Report August 2017 which identifies the insatiable public demand for mobile connectivity across the UK:

- UK telecoms services generated £35.6bn in revenue in 2016

- 92 million active mobile subscriptions at the end of 2016

- 52m of those are 4G subscriptions in 2016 - compared to 2.3m three years earlier.

- mobile subscriptions with access to 4G services increasing by 32.9% to 52.4 million in 2016.

- 44% year-on-year increase in average mobile data consumption

- Almost six in ten (58%) adults aged 16+ said they had a 4G mobile service in 2017.

- 42% internet users consider smartphones to be their most important device for accessing the internet (15% in 2013).

- Smart phone take-up grown from 27% in 2011 to 76% in 2017

- Outgoing calls from mobiles increased by 5.7% to 151 billion minutes in 2016

- Growth in mobile subscriptions driven by a 14.2% increase in the number of machine-to-machine (M2M) connections in 2016 - commonly used examples of M2M are in smart metering, burglar alarms and vending machines

- Compares to 25.3m fixed land broadband connections across UK

- In March 2016, more internet users visited online retailers on mobile devices than on laptops and desktops; three in ten mobile internet users accessed their bank account via their mobile phone in March 2016 – a growing trend

- The mobile phone is the most popular device for social media use in 2016: 50% of all adults' time using social media is spent on a mobile phone.

- Businesses accounted for 13% of all mobile connections at the end of 2015

- UK having 97.8% outdoor premises coverage by at least one operator in May 2016. 67% of mobile phones (53.1 million) were used to access the internet in 2015, up from 61% in 2014 (47.9 million).

National Policy and Planning Support

A.6   The importance of the Digital Economy in all its forms, including fixed and wireless communications like the mobile communications networks, is a significant priority for the UK and Devolved Governments.

A.7   In its Information Economy Strategy (June 2013), the UK Government estimated that the digital sector alone contributed around £105 billion in gross value added (GVA) to the UK in 2011 and The Department for Culture, Media & Sport (DCMS) indicate in its Sectors Economic Estimates August 2016, that this is now 12% higher at over £118 billion. The telecoms sector represents 1.8% of the total UK GVA in 2015, so a significant contributor to the UK Economy. The roll-out of 4G in the UK has been estimated to deliver £75 billion of additional GDP over ten years (http://www.ibtimes.co.uk/4g-everything-everywhere-75bn-lte-economy-334922).

A.8   National policy of all Governments, reflected in the National Planning Policy Framework (NPPF) in England, Scottish Planning Policy (SPP), Planning Policy

Wales and the Strategic Planning Policy Statement for Northern Ireland, is to support the provision of advanced mobile connectivity to help underpin and sustain national, regional and local economies. Mobile connectivity has become akin to the "fourth utility", with commensurately high public reliance and expectation of an ubiquitous service. **Appendix 1** sets out the main Government policy and objectives across the UK to support mobile connectivity.

A.9   Accordingly, with this overarching national planning policy support towards better connectivity, then local planning authorities should not concern themselves whether a particular service is needed, but only the site-specific matters and justification considered against local policy and guidance.

A.10   At national level and to help achieve this expected high level of service, all Governments have or are in the process of implementing a number of changes which span across national planning policy. These changes, which are summarised below in themselves signify a major policy shift that is relevant to the weight to be attached to the support given to the provision of infrastructure in the development management process:

- The Digital Economy Act 2017, amongst other things has:

  o Placed on operators a Universal Broadband Obligation and although emphasis will be towards provision of fixed line services to meet this obligation, mobile broadband connectivity will form part of the overall delivery strategy

  o Introduced a new Electronic Communications Code, with the intention of facilitating economic access to sites to support better mobile connectivity across the UK

- All Governments have either extended rights of permitted development for code operators, such as the MNOs, or are in the process of looking to do so - with a likely continuing emphasis to ensure that the planning systems across

the UK are efficient and effective at bringing forward nationally important mobile communications infrastructure

Benefits of Mobile Connectivity

A.11   Most communities and local authorities now understand the principal benefits of mobile connectivity, which can be categorised under sub- headings, with examples (which overlap to some extent) as follows:

Economic Benefits

- Central and local government are harnessing applications and on-line services to help businesses as well as communities – for example, DEFRA now requires a variety of forms to be completed on line, rather than in written form.

- Mobile communications, especially high speeds can help extend business opportunities into peripheral areas, both directly and indirectly.

- An example of a direct benefit would be a business reliant on mobile communications being able to establish within an area, so creating local employment opportunities.

- Indirect benefits, might include visitors to the local area being able to search and make reservations or bookings at local restaurants or hotels, or people selecting an area to visit over another because of the availability of services

- Local tradesmen and others who provide services such as doctors and vets can provide a more responsive and flexible service, which can save costs.

Improving Social Well - Being

- Mobile communications can help social well – being by simply ending or reducing a sense of isolation.

- Mobile communications can bring about far greater personal convenience and security, for example, teenagers can keep in parental contact when out in the evening.

- Mobile communications can provide much greater freedom to carers, who can remain in contact in case of emergency.

- Mobile communications are required to enable people to remain connected and to access social networking sites. For young people in particular this is important so that they can feel included amongst their peer group.

- Mobile communications can access a range of applications to benefit peoples lifestyle and interests.

- Mobile communications can help parents interact with children far away, for example, a divorced father can play a game on line with a son many miles away.

- Reliable mobile connectivity gives people the choice to elect not to have a fixed line. At a time when nearly everyone has a mobile, a low income household with no or little mobile connectivity may still have to pay for both. Better mobile connectivity and availability can mean that a household can save on the fixed line costs, which to them would be an appreciable saving.

Encouraging Sustainable Lifestyles

- Mobile phones can help minimise unnecessary journeys, so increasing productivity and reducing travel demands.

- Mobile phones can help facilitate modern forms of working, including greater homeworking, particularly beneficial to more rural communities. This can bring about an improved balance between home and working life. At the same time, it can help minimise private car movements and so help reduce peak period congestion and pollution. This is a particularly important benefit when transport policy to reduce travel and CO^2 emissions seems to be failing.

Improving Health and Safety

- Most 999 calls in the UK, including requests for Coastguard assistance and Mountain Rescue are now made using mobile phones.

- On an average day in the UK 11 people are killed on our roads. A far greater number are saved from fatal or permanent injury through prompt paramedical assistance in the critical early period following an accident. This is made possible by 999 calls placed almost immediately following an accident.

- Ambulances responding to heart attack victims will often have mobile connected ECG machines that can send real time data back to specialist hospital units, so they can advise paramedics on the scene, direct the victim to the most appropriate unit and enable pre-operation preparations to commence on the victim and at the hospital.

- There are an increasing range of health and well-being applications, from fitness bands to heart and other monitoring for alerts to take medication or seek help. These are increasing with 4G services and with 5G are anticipated to be more linked with primary health care records and services.

- Mobile phones can be used to summons assistance from the breakdown services in the secure environment of a locked car. This is particularly important to the vulnerable.

Future demand, expectations and requirements

A.12   The ability to be or remain connected wherever we are is an increasingly important part of our daily lives, whether for business or for contacting friends and family or for accessing online information and entertainment services on the move. Improvements and resilience to existing mobile networks is therefore expected and required in order to support a prosperous and competitive economy.

A.13   These factors coupled with the continued evolution of technology and the services that can be supported by it drive demand for network coverage and capacity. As a global economy, geopolitical factors increase the imperative to meet this demand – Brexit and clearly a more protective USA, for examples, mean that we shall have to become more competitive to maintain and grow our economy. This continued and future demand for mobile services brings with it a number of considerations mainly relating to:

- Areas without coverage or partial coverage
- Capacity and data demands and associated network pressures
- Next generation requirements and expectations

Coverage

A.14   In its Connected Nations Update Spring 2018, Ofcom highlighted that there have been improvements in mobile connectivity across the UK, but there remain challenges:

- Not everyone in the UK enjoys the same high level of availability - mobile coverage has improved but challenges remain in many rural areas

- Outdoor coverage has improved, but only 76% of the UK has telephone call coverage from all operators.

- Less than seven in 10 UK homes and businesses have 4G coverage indoors from all operators.

- Outdoor 4G coverage continues to increase, but is still relatively low compared to more mature 2G and 3G networks,

- 25% of UK A and B Class roads have coverage by fewer than four operators, which means it make be harder to make or receive a telephone call.

- 3% of the UK's A and B roads have no coverage for telephone calls from any operator at all

- The picture varies across the nations - while the ongoing rollout of 4G services has led to some improvements, mobile coverage is still worse in Northern Ireland, Scotland and Wales than it is in England.

- Even with improvements to date, coverage is poor in many places, with only 45% and 30% of geographic area covered by

4G services from all operators in Wales and Scotland respectively.

- 1% of the geographic area not covered by any operator – likely to be more severe in the rural and remotest areas of the UK and this has a particular impact in Scotland, Wales and Northern Ireland

- Mobile coverage remains uneven in key places where people look to make calls and use data, including indoors and on the move.

- Poor mobile coverage is not only an issue for premises; it is also an issue for transport networks.

A.15   Mobile coverage therefore varies significantly between urban and rural communities in the UK. Many rural areas have limited coverage and fixed choice of supplier and there remains a clear gap between the availability, choice and quality of mobile connectivity in urban and rural communities. This is more apparent in some of the most peripheral locations of Scotland and Wales.

A.16   Even where mobile coverage may exist, not all users benefit in the same way – in October 2016 uSwitch stated that one third of mobile phone users have reported poor or no reception at home. Although improvements have clearly been made, there remain clear disparities in mobile coverage across the UK, from roads to rural areas, voice coverage to 4G internet, so there is much left to be done to improve mobile infrastructure and increase the extent of coverage in the UK.

A.17   To tackle this there are various Government and Regulator initiatives to improve mobile connectivity across the UK:

- In 2014, £5 billion investment was agreed with the four main Mobile Network Operators (MNOs) to improve mobile coverage in the UK and clearly this is underway.

  Devolved Governments are likely to be looking also to bring forward their own strategies and plans to improve mobile connectivity which might include public intervention like the Mobile Infrastructure Project which helped deliver a number of shared mobile communication sites across the UK. Indeed, in March 2018, the Scottish Government announced further details of its '4G Infill Programme' which is intended to deliver mobile infrastructure to complete mobile 'not spots' in Scotland.

- The 700 MHz radio spectrum which is currently being cleared from broadcast purposes will be reused for other services include mobile connectivity. The UK Government has indicated that this spectrum will be released with greater emphasis on addressing areas without coverage and least likely to be addressed by MNOs commercial deployments, so potentially focused on greater rural connectivity.

- The National Infrastructure Plan, Digital Economy Act and reforms to the Electronic Communications Code should bring changes to remove barriers to investment in communications infrastructure and to secure better mobile connectivity across the UK, along with the parallel changes already referred to being formulated and introduced to the UK Town Planning systems.

Capacity and data demands

A.18 Notwithstanding the need to address coverage deficit across the UK, there is a major growing demand for data usage across the mobile networks.

A.19 Mobile data traffic (which includes everything from texting and email to mobile web surfing and video streaming) has grown exponentially. Internet access is going mobile, and for most people, their smartphone is now the main gateway to being online

A.20 It has been estimated that global mobile data traffic in 2014 was nearly 30 times the size of the [entire] global Internet in 2000. The Internet carried 1 exabyte (1 billion gigabytes) of traffic in 2000, and in 2014 mobile networks carried nearly 30 exabytes of data traffic (an exabyte is a unit of measurement and one exabyte contains roughly the same amount of data as 250 million DVDs - Cisco Visual Networking Index (VNI) Global Mobile Data Forecast 2015–2020).

A.21 Indeed, capacity of the UK networks is a growing consideration in network deployment and maturity – it is predicted that by 2020 demand for mobile data will be between 30 and 45 times that in 2015 (Nokia Bell Labs53). In the UK, Ofcom 2016 figures show a 44% year-on-year increase in average mobile data consumption. So, the mobile networks not only have to have coverage improvements and better user accessibility, but the ability to cope with demand, future trends and future technologies which place significant pressures on the networks and how they operate.

Meeting existing coverage, capacity and future demands

A.22 In order to meet coverage, consumer demand and capacity requirements, mobile technologies and deployment will continue to advance at pace. We can expect some major new mobile deployments and associated infrastructure in the UK based around:

- **Upgrade** - equipment upgrades and increases at existing mobile communication sites for the roll-out of 4G and 5G services

- **New Sites** - new sites within rural areas, supporting a better "rural grid" to meet greater coverage obligations on MNOs as part of tighter and more focused spectrum auctions. Additional focus on transport routes, road and rail corridors.

- **Special Programmes** - new sites, likely focused towards rural areas, as part of highly focused public intervention programmes by Governments.

- **Small Cell network solutions** – delivering the capacity mobile operators and building owners need to meet rising demand in a variety of urban areas, both indoor and outdoor. These are likely to be based around superfast (5G) apparatus installed onto street furniture and the sides of buildings

- **In building Solutions**, particularly to areas of high footfall and use like office buildings, airports and public stadiums

- **Distributed Antenna System (DAS)** - a network of antennas that can be installed throughout a building or outdoor area to enhance mobile coverage for the benefit of users inside and nearby

A.23   5G is used to describe the fifth generation of mobile communications technologies. As detailed in the DCMS publication '*Next Generation Mobile Technologies: An update to the 5G strategy for the UK' (December 2017),* it is anticipated that it will deliver a step change of ultrafast, low latency (i.e. quicker reaction times), reliable, mobile connectivity. This will be able to support ever-larger data requirements, as well as wide-ranging new applications such as smart cities, self-driving cars, greater industry and service automation. The diagram below from the DCMS publication explains this further.
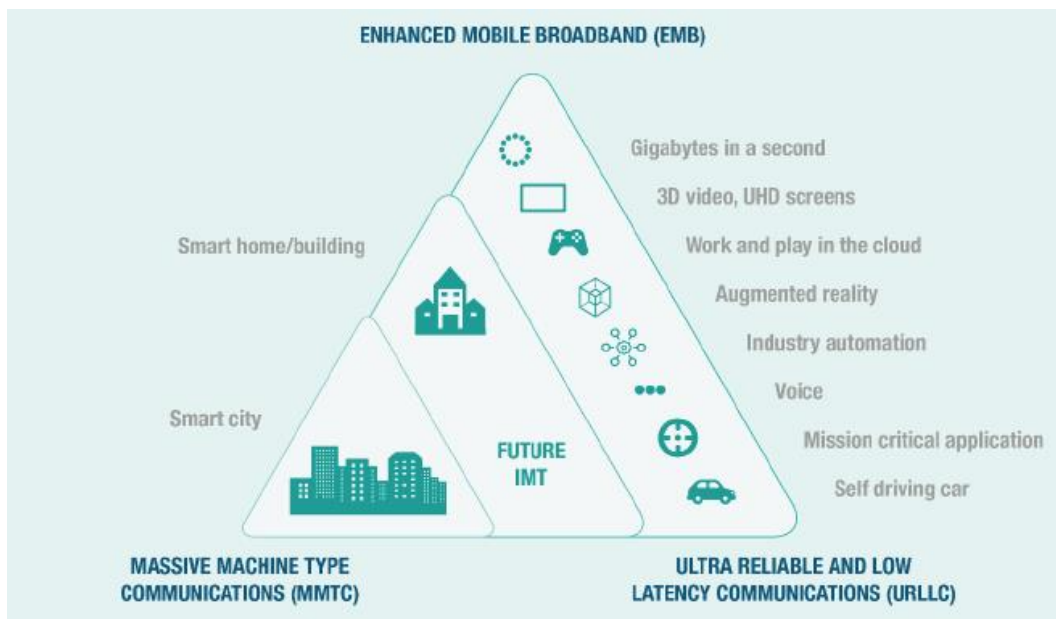
A.24   To deliver this step change in mobile connectivity, the 5G networks will need to rely on many hundreds of thousands of additional base stations, likely to be 'small cell' technology using smaller scale apparatus on buildings and public infrastructure like street furniture and lamp posts.

A.25   What is very evident is that the UK town planning systems have a major responsibility in helping to deliver these network changes and improvements. This will be achieved through supportive national and local policy and guidance. It must also entail meaningful engagement with the industry and effective decision making by local planning authorities - by properly balancing operational and environmental considerations, particularly in the most sensitive of locations (like protected areas) where rural communities exist and aspire to have similar levels of mobile connectivity comparable to other urban areas of the UK.

Appendix 1: Key National Policy Context

The following presents key strategic and planning policy of UK Government and Devolved Governments, applicable to the consideration of better mobile connectivity and which form a material planning consideration.

MOBILE CONNECTIVITY	
Publication	**Key Objectives**
EU	
EU Regulatory Framework for Electronic Communications (Commission of the European Union, 2009)	• The Regulatory Framework for Electronic Communications providing a reform package for strengthening the European electronic communications market including mobile connectivity
Directive of the European Parliament and of the Council establishing the European Electronic Communications Code (Recast) COM/2016/0590	• The European Commission proposed a new European Electronic Communications Code to reflect changes in the market, simplifying the process of investing in new top-quality infrastructures both locally and across national borders.
UK WIDE	
DCMS Digital Britain June 2009	• To support the UK Digital Economy in all its forms, including moving away from GSM coverage to next generation mobile technologies
Ofcom Mobile Data Strategy 2016	• Identifies a need for a long term strategy to address the increasing use of data by mobile devices such as smartphones, tablets and laptops • Accelerate availability of the 700 MHz band and increase the amount of spectrum available to mobile • Announced initiatives which will help improve reach, cost and availability of fibre and copper and help improve backhaul
UK Digital Strategy 2017 - Connectivity - building world-class digital infrastructure for the UK (March 2017)	• World-class digital connectivity is increasingly vital for businesses in the UK • The UK's digital infrastructure must be able to support this rapid increase in traffic, providing coverage with sufficient capacity to ensure data can flow at the volume, speed and reliability required to meet the demands of modern life • CBI survey, 81% of firms said that they see more reliable mobile connectivity as essential • 5G is the next generation of mobile connectivity – wants to see the UK take a leading role in the

	development and roll-out of 5G.
DCMS - Next Generation Mobile Technologies: A 5G Strategy for the UK – March 2017	• States that digital connectivity was once a nice to have, perhaps even a luxury - it is now essential • UK Government has a clear ambition for the UK to be a global leader in the next generation of mobile technology – 5G • 5G will support transport and logistics; financial services; health and social care; retail; digital creativity and information services; and production, manufacturing and robotics • Lower latency (i.e. quicker reaction times) expected to be a feature of 5G networks could make it possible to support the large-scale use of driverless vehicles for the first time. • In connectivity "hot-spots", additional capacity will likely be provided by hundreds of thousands of small cell radios with short-range, high speed connectivity that support the existing network. • For technological progress in the mobile market this will require a flexible regulatory framework that keeps pace with developments. • Local areas have a critical role to play in facilitating the deployment of mobile telecommunications infrastructure and are already doing so in many areas. • Government wishes for local areas to develop broader plans to deliver local mobile connectivity. • Flexible and fit for purpose planning regulations will be required to support the deployment of 5G networks.
DCMS Mobile Infrastructure Project Impact and Benefits Report	• 75 mobile masts to 7,199 premises which previously had no mobile signal • Government evaluation showed that communities greatly appreciate the improved mobile connectivity and that it brings a variety of benefits to those communities. • MIP helped to reduce the digital divide and add public value, • MIP confirmed the need for Government to work more closely with mobile operators to ensure they are able to roll out their networks into rural areas. • Challenges associated with mast site acquisition, experienced during MIP, have helped bring about new legislation to relax the planning regime,
Digital Economy Act 2017	• Substantially different from, and shorter than, the Digital Economy Act 2010, whose provisions largely ended up not being passed into law.

	• Introduced a Universal Service Obligation which allows users to request broadband speeds of at least 10 Mbps. The obligation is to be introduced by 2020, and Ofcom are empowered to subsequently increase the minimum broadband speed requirement. Although largely directed towards fixed line, mobile broadband connectivity will form part of the overall delivery strategy • Updates the Electronic Communications Code in order to make it easier for electronic companies, like MNOs, to erect and extend mobile masts to improve mobile connectivity
Electronic Communications Code 2017	• Updated to make it easier for network operators to install and maintain apparatus such as phone masts, exchanges and cabinets on public and private land
Deloitte (for DCMS) - the Impacts of mobile broadband and 5G – June 2018	• Commissioned by the DCMS to take a focused review on the economic and social impacts of mobile broadband and potential impacts of 5G
DCMS – Future Telecoms Infrastructure Review – July 2018	• UK to have high quality mobile connectivity where people live, work and travel • In the longer-term, the Government expects to see a more converged telecoms sector – especially with technology synergies between 5G and fixed networks • Wide-scale deployment of next generation technologies like 5G and full fibre will be key to the UK remaining globally competitive • Wide-scale deployment of these next generation technologies will underpin the UK's modern Industrial Strategy. • Want to be a world-leader in 5G, with the majority of the population covered by 5G networks by 2027. • Government will create a supportive market and policy condition [to support next generation technologies]. • Government recognises the need to keep planning regulation under review and to listen to suggestions from industry for how new technology is best supported in the planning regime.
ENGLAND	
National Planning Policy Framework – revised July 2018	• States that advanced, high quality communications infrastructure is essential for sustainable economic growth.

	• Planning policies and decisions should support the expansion of electronic communications networks, including next generation mobile technology (such as 5G) • Policies should set out how high quality digital infrastructure, providing access to services from a range of providers, is expected to be delivered and upgraded over time • The number of radio and electronic communications masts, and the sites for such installations, should be kept to a minimum consistent with the needs of consumers, the efficient operation of the network and providing reasonable capacity for future expansion. • Use of existing masts, buildings and other structures for new electronic communications capability (including wireless) should be encouraged. • Where new sites are required, equipment should be sympathetically designed and camouflaged where appropriate
SCOTLAND	
Infrastructure Investment Plan 2011	• Sets out why Scottish Government needs to invest, how they will invest and what strategic, large scale investments they intend to take forward within each sector over the next 10 to 20 years. • Moving Scotland to a position where it is keeping pace with international comparators • Plan will consider the current connectivity infrastructure in Scotland, including information on the mix of potential technologies.
Scotland's Digital Future – A Strategy for Scotland - 2011	• Presents a strategic vision to achieve the digital ambitions of the Scottish Government including better mobile connectivity
Scotland's Digital Future – Infrastructure Action Plan - 2012	• The key aim of the Infrastructure Action Plan is to enhance Scotland's digital infrastructure in terms of ease of access, geographical coverage, price and choice of provision for consumers. • Improving mobile coverage across Scotland is also an important element of the plan to ensure people have good access, wherever they are, to telephone and data services from hand held platforms such as mobile and smart phones, and tablets • continue to work with the UK Government and Ofcom to promote an appropriate and adaptable regulatory environment that is an enabler to achieving ambitions;

	notably in relation to rural mobile coverage
National Planning Framework 3 – June 2014	• The NPF3 is aimed at encouraging a more positive approach to town planning. While the NPF builds environmental protection into the definition of sustainable economic development, there is also a very clear emphasis that local planning authorities should be looking for ways to help development come forward and not reject applications simply on environmental grounds. • The NPF3 recognises that this is especially relevant where a development might have other significantly important benefits such as being essential to meet, for example, sustainable economic growth or a national need which can include new mobile electronic communications infrastructure
Scottish Planning Policy – June 2014	• Key Outcome 4 is to have a more connected place – supporting better transport and digital connectivity • States that the planning system should support the need for networks to evolve and respond to technology improvements and new services; • For development management consideration should be given to how proposals for infrastructure to deliver new services or infrastructure to improve existing services will contribute to fulfilling the objectives for digital connectivity set out in the Scottish Government's World Class 2020 document • For developments that will deliver entirely new connectivity – for example, mobile connectivity in a "not spot" – consideration should be given to the benefits of this connectivity for communities and the local economy • Planning authorities should not question the need for the service to be provided nor seek to prevent competition between operators • Infrastructure provision which is sited and designed to keep environmental impacts to a minimum

Scotland's Future - Connecting Rural Scotland - July 2014	• A plan to improve rural connectivity in different forms but including:
	  • Development of mobile and broadband technologies which have a central role to play in overcoming the challenges distance can introduce to rural life, but where coverage across rural Scotland is not good enough
	  • Removing barriers to investment in mobile networks

Mobile Action Plan – June 2016	• Action plan outlining steps that the Scottish Government and public-sector partners will take to improve mobile connectivity across Scotland including:
	  • Identify where the gaps will be after commercial rollout and jointly design technology solutions and business models that will allow services to be delivered by operators in a sustainable way - will range from interventions such as business rates relief through to more direct interventions, such as investing in the construction of new or enhanced infrastructure
	  • Further reform of the planning system and proposals for the further relaxation of planning controls to support commercial investment in digital connectivity.
	  • Maximise the wider coverage benefits of the Extended Area Services (EAS) project within the wider ESMCP and to ensure that, where possible, these new masts are future-proofed and open to all operators
	  • Explore the potential for a national 4G mobile infill initiative
	  • A clearer understanding of what additional rural backhaul capacity may be required in Scotland to underpin longer term investment by the MNOs and also the capacity requirements to make Scotland "5G-ready

Realising Scotland's full potential in a digital world: A Digital Strategy for Scotland (The Scottish Government, 2017)	• The Strategy lists a wide range of actions that need to be taken in order to achieve the vision it presents. These actions including:
	  • Actions to deliver high quality connectivity across the whole of Scotland
	  • Actions to promote diversity in digital
	  • Actions to support people and communities
	  • Actions to promote digital inclusion and participation
	• Urges UK Government and Ofcom to apply the "outside-in" principle when auctioning spectrum for 5G deployment and ensure that operators deliver coverage to the most rural areas before they deploy in urban centres

Planning Bill	• The Bill sets out high level changes to the overall framework under which planning operates; the detail of how the new provisions will work in practice will be contained within secondary legislation and guidance.

Scottish 4G Infill Programme March 2017	• The Scottish 4G Infill Programme will look to fund new mobile masts in locations with no existing 4G mobile coverage to improve mobile connectivity for communities and businesses.
WALES	
Planning Policy Wales	• Planning Policy Wales (PPW) acknowledges that widespread access to affordable, secure telecommunications infrastructure is important to both communities and businesses.
Mobile Action Plan 2017	• A detailed Action Plan to establish better mobile connectivity in Wales: • To create the right environment to encourage further investment in mobile infrastructure and to promote innovation in mobile technologies including: • If mobile coverage is going to improve there will need to be an increase in the number of mobile infrastructure sites in Wales, including in more scenic areas. A balance will need to be struck between mobile connectivity and the impact on the landscape. • Statistics from Ofcom for television transmission are useful in highlighting the scale of the challenge. To reach 1 million people in England it requires 12 masts, in Northern Ireland it requires 25, Scotland requires 45 and Wales needs 67. • Will look to consolidate the code of best practice and Technical Advice Note (TAN19) on mobile network infrastructure development. • A reduction in non-domestic rates could be used to encourage investment in mobile infrastructure • Welsh Government to continue to support emerging technology initiatives throughout the country including solutions to support rural businesses. • Welsh Government will scope the extent of any public intervention to allow infill solutions where there is no usable and reliable mobile signal. • Ensure much greater mobile connectivity along the road networks • Examining the scope for future changes to the Permitted Development Rights Order for operators
National Development Framework	• Will set out the support got national economic, transport, environmental, housing, energy and cultural strategies and ensure they can be delivered through

	the planning system
NORTHERN IRELAND	
DETI: Telecommunications Action Plan	• Sets out Executives wider strategy to support all forms of digital connectivity including mobile
Telecoms 2015 – 2017 - Continuing to Connect	• States that rural areas must also be beneficiaries of the Mobile Infrastructure Project UK, facilitated through DETI • DETI fully recognises the important role that good telecommunications plays in economic growth and will continue to work with the telecommunications industry and others, to ensure that appropriate infrastructure is in place to meet future demand
Regional Development Strategy 2035 (2010)	• Implement a balanced approach to telecommunications infrastructure that will give a competitive advantage • Improve telecom services in smaller rural areas to minimise the urban/rural divide, including mobile connectivity
Strategic Planning Policy Statement for Northern Ireland – September 2015	• Modern efficient telecommunications infrastructure that will give Northern Ireland a competitive advantage. • High quality communications infrastructure considered essential for sustainable economic growth • Ensure that the visual and environmental impact of telecommunications and other utility development is kept to a minimum