Connectivity is promoting the Smart Cities Agenda

- Smartphone apps are energy waste, predict human behaviour and provide automated management, but they rely on high quality mobile network connectivity.

- Electronic devices increasingly communicate with each other through the mobile network, saving businesses and residents time and money.

- Policy-makers can take action – often without resource implications – to improve local mobile connectivity.

Mobile connectivity is about more than coverage for phone devices. The internet of things continues to create a multitude of appliances and applications that require mobile connectivity. As more devices vie for connections, the network will need to be broadened and densified considerably – by some estimates, around 500,000 new small network cells will be required in Britain's cities in order to meet the demand that smart devices are creating.

New developments in the field of big data analytics are unlocking new opportunities. Through complex analysis algorithms, companies and service providers can now have access to real-time insights into crowd behaviours. The Metropolitan Police, for example, has announced that it is investing in new face-recognition technologies which communicate with central databases via the mobile network. These developments hold great promise, but they will be reliant on a significant increase in data being transmitted through mobile infrastructure.

The Smart Cities agenda has the potential to deliver significant savings to local authorities while improving services dramatically. For example, research conducted by Vodafone in 2015 found that smart street lighting and energy management systems in local government buildings could save over £400 million. Energy efficiency innovations require instantaneous communication, as do new technologies for smart building management.
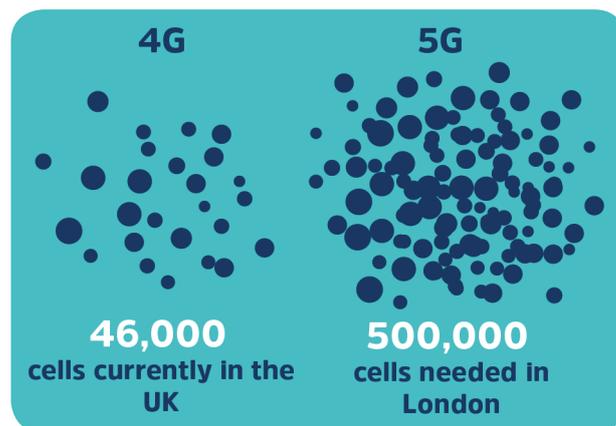
Analysis by the Department for Business, Energy & Industrial Strategy (Smart meter roll-out cost benefit analysis report 2016) has demonstrated that smart metering (which requires good mobile reception) could save consumers in the UK £5.24 billion by 2021. Such energy efficiency is not only positive for consumer finances – it also lessens the pressure on utilities, reducing utility-related roadworks and helping the UK meet its pollution reduction targets.

The UK government has recognised the importance of improved mobile connectivity to the smart cities agenda. Complementing the extensive investments that the mobile network operators have made since the introduction of 4G technology – amounting to £2bn every year – the 2010-15 Coalition government invested £150m to improve the quality and coverage of mobile phone voice and data services, and the 2016 Autumn Statement announced over £1bn for mobile and internet upgrades. The May 2017 Conservative general election manifesto meanwhile includes a promise of £740m for digital infrastructure investment.

But central spending alone cannot solve the UK's mobile challenges. Local action is needed, which is why Mobile Britain has launched its new Building Mobile Britain campaign to get local authorities, mobile network operators, central government and other players working together to take action.

Local authorities can greatly enhance the benefits they reap from the Smart Cities agenda by:

- Improving access to public assets for mobile providers
- Abolishing planning controls for small equipment installations
- Requesting that developers and planners consider mobile connectivity at the beginning of a project
- Explicitly supporting the Mobile UK campaign, Building Mobile Britain, including in local development plans
- Partnering with mobile providers to trial new methods of extending mobile coverage
- Promoting the use of mobile-friendly materials in construction projects and creating local digital or connectivity champions

4G

5G

46,000
cells currently in the UK

500,000
cells needed in London