EE/16/8

Place Scrutiny Committee
14 June 2016

Mobile Phone Reception in Devon

Report of the Head of Economy and Enterprise

1. Summary

This report reviews mobile phone reception in Devon, its impact on the economy and work underway towards addressing “not-spots” in coverage.

National studies carried out have shown that rural businesses have estimated themselves to be suffering from losses of £150-£200 per month in income in not-spots. Residents and businesses have indicated a willingness to pay between £12 and £25 for an improved service. Ofcom 2015 coverage data shows that Devon is still significantly behind the UK average coverage level. Following the government’s Mobile Infrastructure Project, which has had a limited impact, the Economy and Enterprise Service has commissioned consultants to update coverage provision data, liaise with mobile operators, consider the options to address the not-spots in Devon, and to then develop a business case for public investment to improve mobile phone coverage potentially through implementing pilot sites.

2. Background and Introduction

Mobile voice and data coverage across Devon is perceived to be poor when compared with other county areas in England. In 2012 Ofcom published a report based on a comprehensive coverage survey of the country which confirmed that there were significant mobile voice not-spots across the county of Devon and 3G mobile coverage by the majority of operators was limited to the more urban areas and market towns. The 2015 Ofcom data shows improvement but there are still significant gaps, particularly with 4G coverage. See Appendix I for definitions of mobile services and table giving breakdown of services.

Comprehensive 4G coverage in Devon is very important to economic and social development, and it is now regarded as a utility. As noted in a 2015 Ofcom study “high quality, widespread communications, fixed and mobile, are an engine of our economy and the pulse of our society” [Ofcom Connected Nations Report 2015.]. Improving mobile connectivity in Devon will have clear benefits for residents, rural businesses, visitors and brings social inclusion benefits. It will also complement and add value to the broadband roll out through the Connecting Devon and Somerset project.

Consumers, businesses, tourists (national and international) and travellers/backpackers all rely on mobile connectivity in their day to day lives. Small business productivity, future employment and economic development in rural areas would benefit from improved mobile coverage. Indeed, the role of mobile services continues to grow as illustrated in Ofcom’s Connected Nations 2015 Report: “Mobile services are playing an increasingly important role in our daily lives. This has created a growing expectation that mobile devices will work reliably wherever we are, whether at home, at work, in a car or out walking in the countryside.” The report goes on to say “the rate of growth in mobile data use continues to outstrip that on fixed broadband networks; it grew by a factor of 64% over the past year.” The report also refers to the 2013 government auction for 4G spectrum, where to support high speed 4G mobile broadband services. 4G licences in the UK are subject to the highest coverage obligation ever placed upon a mobile operator in this country requiring operators to reach 98% indoor coverage across the UK by the end of 2017.

3. Economic Impact

It has been estimated that planned mobile coverage investment could generate an 0.5% uplift of GVA [Source: ONS / Capital Economics, April 2012: Mobile Broadband and the UK Economy]. Using the most recent Cambridge econometrics model, Devon's GVA by 2022 is projected to be £18.81bn, so this produces a £94m uplift over Devon. This study also concluded that 10,932 jobs within the South West would be safeguarded through such investment.

Coverage of premises is important, but geographical coverage is especially important – for example, in the Tourism sector: The Ofcom 2012 report showed Devon only had 12% 3G coverage by all operators. This has now improved to 57% but is way behind the UK average of 88%. Devon is the third largest county in England and caters for 34m visitor trips a year – and with 3G/4G now considered ubiquitous by visitors, this could adversely impact an industry that forms 12% of the local economy with total visitor related spend estimated around £2.25bn per year in 2013.

Defra have carried out a study entitled "Estimating the value of mobile telephony in mobile network not-spots" which sampled "not-spot" residents, businesses and visitors from Department for Culture Media and Sport (DCMS) database of not-spot areas in 2013/14. This found that:

- Over 97% of residents and local visitors owned a mobile phone for personal use, and 85% for business, despite being in not-spot areas.
- Over 33% of residents and local visitors thought it important to get internet services on their phones, compared to 48% of Businesses – showing greater demand for mobile broadband from business.
- 50% of large and small businesses indicated being in a not spot had a negative impact on profit, turnover and productivity. The majority of losses estimated by businesses able to quantify impacts ranging between £100 and £250 per month – there being a positive correlation between the size of the business and size of the loss.
- Respondents across all segments were willing to pay for improved services – the degree very much dependant on their current distance from a workable voice service (i.e. 2G).
- 4G services were not valued more highly than 3G, except for tourists aged less than 45 – perhaps the latter had actually experienced the difference of 4G.
- On average, residents were willing to pay around £12 per month for the same level of an available nearby 2G voice services, and £23.40 per month if the service was improved beyond the current nearby signal (i.e. 3G/4G). For business these figures were £20.90 per phone, per month and £24.50 per phone, per month.

A study undertaken in Scotland, entitled Economic Impacts of Mobile Communications in Scotland – Report by the Scottish Government (SQW – Jan 2014) found that:

- Non-domestic rates are a key constraint to rural investment, as well as planning constraints, capital outlay and ongoing operational costs (power, backhaul and site rentals). The report suggested any 'intervention' focuses on reducing planning hurdles; increasing information sharing on potentially suitable publicly owned sites with lower rentals; reducing the complexity and burden of non-domestic rates (especially for small cells) and looking at ways of reducing the costs of fibre backhaul.
- Through overall improvements to mobile services (funded either publicly or privately), the model predicts a potential boost to Scotland's annual growth rate of 0.025%.

4. Update on National Government Plans and Programmes

Government has recognised the need for improved mobile connectivity across the UK and has carried out a number of activities to support this, as below.

The Mobile Infrastructure Project

Subsequent to the 2012 Ofcom study the government awarded a national £150m contract to Arqiva under its Mobile Infrastructure Project (MIP) designed to produce a significant enhancement primarily in mobile voice but also data coverage across the UK. MIP was intending to build 25 masts in Devon but to date has gained planning permission for 10 Devon sites, of which 9 were being progressed to completion for the end of the project timescales in March 2016, with implementation currently not complete.

Lessons learned from MIP programme are mainly due to the rural and remote location of the sites, with significant challenges meaning MIP has struggled to achieve its original objectives for technical and economic reasons including: difficulty in providing power to some remote sites, site rental costs much higher than budgeted, gaining access for construction and maintenance, planning applications rejected, different spectrum allocations and the requirement to have two of the four mobile operators at each site. Also it was found that some not-spots identified in 2011 data now have coverage, so not-spot data is dynamic and subject to verification as a project progresses.

Defra 10 Point Rural Productivity Plan

Mobile is one of the ten points in Defra's 10 Point Rural Productivity Plan, dated August 2015, relating to the delivery of "High Quality Widely Available Mobile Communications" which says: "The government will put in place the right conditions, and work actively with providers, to ensure rural areas have the best possible coverage of high quality mobile services:

• The government will work closely with industry to support further improvements to mobile coverage in the UK. This will supplement the legally binding obligation on Mobile Network Operators to provide voice and SMS text coverage to 90% of the UK by 2017 and Telefonica's licence obligation to deliver indoor 4G coverage to 98% of UK premises by 2017.

• The government proposes to extend permitted development rights to taller mobile masts in both protected and non-protected areas in England to support improved mobile connectivity, subject to conclusions from the Call for Evidence.

DCMS Consultation on Permitted Development for Mobile Masts

In July 2015 the Government published a Review of How the Planning System in England Can Support the Delivery of Mobile Connectivity. This consultation document called for views on the effectiveness of the existing system of permitted development rights for telecommunications infrastructure, whether this should be streamlined and sought views on whether it should be changed to include taller masts.

A Government written statement to parliament (DCMS) on 17 March 2016 stated the intention to increase permitted development rights to allow for some taller masts, to follow a six week consultation period with the intention of launching in Summer 2016.
The 17 March 2016 statement confirmed the changes that would be made as a result of this review:

1. Where a site is already used for telecommunications infrastructure, we will extend permitted development rights to allow taller ground based masts to be built. The threshold for new ground based masts will increase from 15 metres to 25 metres in non-protected areas and a new permitted development right allowing new masts of up to 20 metres will be introduced in protected areas. To ensure that there is appropriate community engagement a prior approval will apply where a new mast is being built, meaning consideration will always be given to how to minimise the visual impact of masts.

2. Operators will also be able to increase the height of existing masts to 20 metres in both non-protected and protected areas without prior approval; between 20 metres and 25 metres in non-protected areas with a prior approval; and have a new automatic right to upgrade the infrastructure on their masts in protected areas to align with existing rights in non-protected areas. There will be a height restriction of 20 metres on highways and residential areas to accommodate vehicle lines of sight and pedestrian access.

3. In addition, we will lift restrictions on the number of antennae allowed on structures above 30 metres, while removing the prior approval requirement for individual antenna greater than 6 metres in height in non-protected areas and for 2 small cell antenna on residential premises in both non-protected and protected areas as the visual impact is limited.
4. We will also grant rights so small cell antenna on residential and commercial premises can face highways, and increase from 6 to 18 months the right for operators to be able to install emergency moveable transmission equipment.

5. Next Steps

Devon County Council with other Connecting Devon and Somerset partners successfully obtained £2.5m growth deal funding from the HotSW LEP for spend in 2016/17 onwards to pilot mobile solutions to increase 4G coverage.

In late 2015, the Economy and Enterprise service commissioned consultants to consider the lessons learned from the MIP; update coverage data and maps; and consider the business case options for addressing the not-spots in Devon and Somerset, potentially using both large-scale and small-scale technology solutions.

The consultants will also review the plans and achievements to date of government programmes, identify coverage not-spots, work with the mobile operators under non-disclosure agreements to understand their plans and produce a summary report. They will then develop a business case for delivery of the best identified pilot solutions to the 4G coverage gaps, with a target of 5% coverage improvement. This project is expected to use a procurement exercise to match the growth deal funding with private sector funding as there will be interest from the operators in delivering innovative solutions.

In addition to government intending to change the planning system around larger masts, other local solutions, possibly using experience from the Airband broadband solutions and small “femto” cells will need to be considered, particularly in our National Parks and Areas of Outstanding Natural Beauty.

A further Growth Deal 3 bid has been submitted to take the learnings from this pilot project to raise coverage a further 10%. However, we will not know whether the bid is successful until the Chancellor’s Autumn Statement.

Mobile communications is also included in the Devolution asks, so that if the HotSW area is successful in gaining an infrastructure pot as part of a devolution deal, this should remove the need for annual competitive bids for funding into government and enable a more strategic approach to funding improvements in mobile coverage.

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Local Government Act 1972: List of Background Papers

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Background Paper	Date	File Reference
Nil		

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Appendix I
To EE/16/8

Definitions and coverage data:

Definitions

1G networks are among the first analogue cellular systems, starting in the 1980s.They were designed for voice calls with limited data coverage.
2G networks were the first digital cellular systems and offered voice and data, with theoretical data rates up to 144 kbps.
3G networks offer improved data - The UN's International Telecommunications Union IMT-2000 standard requires stationary speeds of 2Mbps and mobile speeds of 384kbps for a "true" 3G.
4G technology refers to the fourth generation of mobile phone communication standards. No commercial networks meet the ambitious downlink speeds of 1Gbps when stationary and 100Mbps when mobile. However they are very different to 3G and the term 4G is used.
A "**not-spot**" area is an area where there is no effective coverage by any of the mobile operators, usually because it is uneconomic to do so.

Mobile Coverage in Devon

The table below shows Devon is far behind the UK average in 2015 for 4G premises and geographic coverage across all operators. Interestingly one operator, EE, has coverage figures around 38% and 39% for the two categories, substantially higher than the others.

4G, 3G & 2G coverage	Devon (2012 figures)	Local authority average across UK (2012)	Devon (2015 figures)	Local authority average across UK (2015)
4G	-	-		
Premises coverage: all operators	-	-	2.6%	46% (outdoor)
Geographic coverage: all operators	-	-	0.25%	7%
Note: Devon 4G coverage figures for 1 operator (EE) are 38-39%	**-**	**-**	**-**	**-**
3G				
Premises coverage: all operators	46%	67.9%	57.27%	88% (outdoor)
Geographic coverage: all operators	12%	49.3%	26.48%	37%
2G				
Premises coverage: all operators	82%	90.8%	80.29%	93% (outdoor)
Geographic coverage: all operators	60%	78.6%	55.06%	55%