# Connected Nations Update

October 2018

**REPORT**

Publication Date: 2 October 2018

# About this document

This is the second interim update to our last Connected Nations report (December 2017). It provides detail on how the coverage of broadband and mobile networks across the UK and its nations has progressed since our annual Connected Nations Report and the first interim update from April 2018.

As communications play an increasingly critical role in our lives, the supporting infrastructure must keep pace with the needs of people and businesses.

Part of Ofcom’s role is to help ensure that people across the UK can access a decent internet service, and make phone calls where and when they need to.

This update tracks communications providers’ progress in increasing the availability of communications services, and how the UK’s networks are responding to changing needs of people and businesses.

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## Section

# 1. Summary of key developments

1.1 Ofcom's Connected Nations Reports track progress in improving the availability of telecommunications services across the UK and its nations. From this year we are publishing two additional updates to the full report to track progress throughout the year. The first was published in April[1] and this second update outlines the developments in fixed broadband and mobile coverage since then.

1.2 This update highlights steady increases in the availability of both fixed broadband and mobile services. More people are able to access better, faster services, with the proportion of those who are unable to get decent broadband or good mobile coverage continuing to fall.

1.3 But we also recognise many people still can't get the services they need. This update includes examples of how Ofcom, governments across the UK, and industry are working to improve broadband and mobile coverage.

1.4 The data that supports this report has also been used to update our coverage checker app for smartphones and tablets[2], which helps people check the availability of fixed broadband and mobile services in their area.

1.5 The mobile coverage figures provided in this report include corrections to EE's 3G and Vodafone's 4G coverage due to errors in the data they had previously submitted. These corrections reduce EE's predicted 3G coverage calculation[3] and increase Vodafone's predicted 4G coverage calculation (see page 4 onwards). The accuracy of the data provided to us under our formal powers is a matter that Ofcom takes very seriously and in light of these corrections we have decided to formally investigate this matter further.

[1] https://www.ofcom.org.uk/research-and-data/multi-sector-research/infrastructure-research/connected-nations-update-spring-2018

[2] https://www.ofcom.org.uk/phones-telecoms-and-internet/advice-for-consumers/advice/ofcom-checker

[3] Coverage overprediction for EE was in predimonantly rural areas.

### When do we collect the data for our reports?

- The Connected Nations Report 2017, published in December 2017, was based on data captured in May 2017 (fixed broadband coverage) and June 2017 (mobile coverage).
- Our previous update in spring was based on data captured in January 2018.
- This update is based on data captured in May 2018.
- The next full Connected Nations Report will be published in December 2018 and will be based on coverage data captured in September 2018.
- The dates in the figures and tables in this report refer to when data was captured.

## Fixed broadband

1.6 **Full-fibre broadband coverage in the UK has risen since the last update to around 5% of premises.** In our Spring update, we reported that over one million premises had access to full-fibre broadband (up from 840,000 in our December 2017 report). Since then, this has risen again to approximately 1.4 million (around 5% of total premises). This increase is a result of investments from both smaller and larger communications providers. Full-fibre networks can deliver faster speeds (in excess of 1Gbit/s), are more reliable, and provide a more consistent performance, with speeds closer to those advertised. We are continuing to work with Government and industry to drive further investment in full fibre – including introducing new rules to make it cheaper and easier for companies to lay full-fibre networks[4]. We therefore expect the availability of full fibre to continue to rise.

1.7 **The number of premises that cannot get decent broadband has fallen by around 70,000.** Around 860,000 UK premises still cannot get broadband with a download speed of at least 10Mbit/s and an upload speed of at least 1Mbit/s, which is the specification for the UK Government's broadband Universal Service Obligation (USO). There has been a steady reduction in the number of UK properties that cannot get decent broadband in recent years, falling from 1.6 million (6%) in May 2016 to 1.1 million (4%) a year later and downwards to 860,000 (under 3%) as of May 2018.

1.8 While this will continue to fall as companies roll out faster services to more areas, many people in the UK still cannot get a decent broadband connection. Under the USO legislation, homes and businesses without access to decent broadband, that meets the characteristics set out in that legislation, will be able to request a connection up to a cost threshold of £3,400. Ofcom is now responsible for implementing the USO and has been consulting with industry and other stakeholders on how the scheme will be delivered[5].

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[4] Our approach is outlined in our Strategic Policy Position: Regulatory certainty to support investment in full-fibre broadband - https://www.ofcom.org.uk/phones-telecoms-and-internet/information-for-industry/telecoms-competition-regulation/regulatory-certainty-investment-full-fibre

[5] We published our 'Request for expressions of interest in serving as Universal Service Provider for broadband' in June: https://www.ofcom.org.uk/consultations-and-statements/category-2/implementing-broadband-uso. We have also recently published a consultation on the process for designating the Universal Service Provider(s): https://www.ofcom.org.uk/__data/assets/pdf_file/0011/120404/Implementing-the-Broadband-Universal-Service-Obligation.pdf

Later this year, we will be proposing who should be designated as the Universal Service Provider(s) and the Universal Service Conditions to which they should comply. We expect to make our final decisions by Summer 2019.

1.9 **The number of premises able to receive superfast broadband has also increased.** In our Spring update, we highlighted that the availability of superfast broadband, which we define as providing a minimum 30Mbit/s download speed, stood at 27.2 million. This has increased to 27.3 million, which remains at 93% of the total.[6]

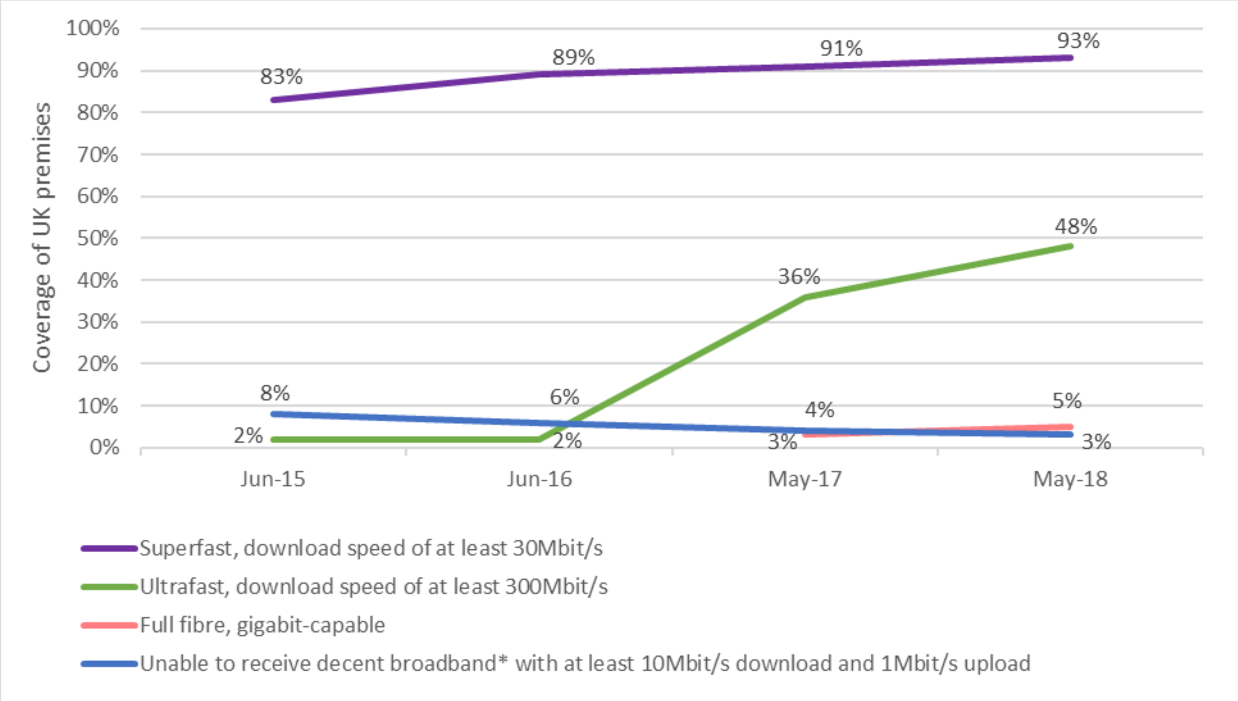
1.10 **Superfast coverage across the nations has similarly increased.** Superfast coverage, based on our definition above, has also increased in Northern Ireland, Scotland and Wales, but remains the same in percentage terms as for the Spring update: England 94%, Scotland 91%, Wales 92% and Northern Ireland 88%.

1.11 **The coverage of ultrafast services, with a download speed of at least 300Mbit/s, has also increased.** 14 million UK premises (48%) can now receive these services, up from 10.6 million (36%) in May 2017, largely as a result of Virgin Media's network upgrades, but also as a result of increases in FTTP network deployment and service availability.

1.12 **Our next full Connected Nations report in December will contain data from a wider set of organisations, giving a clearer picture of broadband coverage in the UK.** Over the summer we have been working on increasing the range of companies from whom we collect network coverage information. Future Connected Nations reports will include data from a greater range of smaller full-fibre networks, as well as more of those offering Fixed Wireless Access (FWA) solutions[7]. We are continuing work to further understand the potential for FWA to offer reliable, high quality broadband services, particularly in rural areas, and the consequences for Ofcom's work to implement the UK Government's broadband Universal Service Obligation. The wider availability of such networks could result in more choice for rural consumers. These new sources of information coupled with further network deployment from communications providers are expected to contribute positively to the broadband coverage figures we will report on in our full report at the end of the year, and may lead to a significant reduction in the number of properties that are not able to access decent broadband services.

[6] The figure presented here should not be confused with the UK Government's March 2018 target of 95% coverage of premises for 24Mbit/s broadband.
[7] FWA use pointto-point radio connections rather than physical cable.

**Figure 1: Coverage of fixed broadband services in the UK since May 2015**




*Source: Ofcom analysis of operator data, June 2015 – May 2018*
** Estimated coverage levels prior to May 2017*

## Mobile services

1.13 **The mobile coverage figures provided in our Connected Nations reports are based on data supplied by the mobile operators, and the coverage figures provided in this report include corrections to EE's 3G and Vodafone's 4G data.** In our Connected Nations 2017 (December) annual report, and the first interim update published in April 2018, we noted we had found some potential differences between our measurements and some of the predicted signal strengths provided by EE. Ofcom's drive testing measurements had identified a potential overprediction in EE's 2100 MHz 3G signal level data. More recent drive testing by EE has found a similar level of overprediction. Given this, EE has resubmitted signal level predictions for their 2100 MHz 3G services to generate the mobile coverage data for this report. This correction reduces EE's 3G coverage from that previously reported.

1.14 Separately, we more recently identified a potential underprediction of the signal levels for Vodafone's 4G services. This has been confirmed by Vodafone and corrected for this report. This correction factor increases Vodafone's coverage, particularly for data services[8].

1.15 In the summary dashboard of this report, we have provided a restatement of the coverage figures provided in our last two reports in December 2017 and April 2018 (from data supplied in June 2017 and January 2018 respectively), based on corrected data from EE and

[8] A correction factor of 6dB has been applied.

Vodafone. The original published figures are also shown. A more complete restatement of historic mobile coverage levels will be provided in our annual 2018 Connected Nations report, which we will publish at the end of this year.

1.16 We have also used the corrected data described above for EE's and Vodafone's signal levels to generate the coverage information provided on Ofcom's online coverage checker maps and coverage checker app.

1.17 We also intend to provide a historical restatement of the mobile coverage data provided in previous years' reports using these corrections, in our annual 2018 Connected Nations report published at the end of this year.

1.18 We take the accuracy of the data supplied to us seriously given its importance to policy making and the information provided to consumers on coverage. In light of these corrections we have decided to formally investigate this matter further. In addition, we will continue to monitor, through drive testing, the accuracy of all of the operators' coverage predictions.

1.19 **We continue to use measures to define mobile coverage that reflect the actual experience of mobile users.** We define mobile coverage in a way that is likely to deliver a decent experience to smartphone users[9]:

a) **Telephone calls:** Nearly all 90-second telephone calls should be completed without interruption.

b) **4G services**: Enhanced voice and data services where nearly all connections should deliver a speed of at least 2Mbit/s and a reliable voice connection. This is fast enough to browse the internet and watch glitch-free mobile video.

1.20 We have used crowdsourced[10] data from consumer handsets and drive testing to identify the signal levels needed to meet these targets at least 95% of the time. We have also continued to check that mobile operators are providing the signal levels they have predicted.

1.21 How you measure coverage is important, but so is *where* you measure it. To reflect the places in which consumers are likely to use their mobile, we look at coverage in three ways:

a) **Outdoor:** The proportion of geographic area where someone can use their phone while outdoors. This measurement is useful for assessing the likelihood of successfully using a phone while out and about.

[9] We also report on the availability of lower speed earlier generation 3G data services. These are reported in combination with lower speed 4G data services (based on a lower target signal threshold) where they are likely to provide a connection speed of at least 200kb/s for nearly all connections. These connections are likely to be sufficient to support lower speed data services such as webrowsing as opposed to higher resolution video.

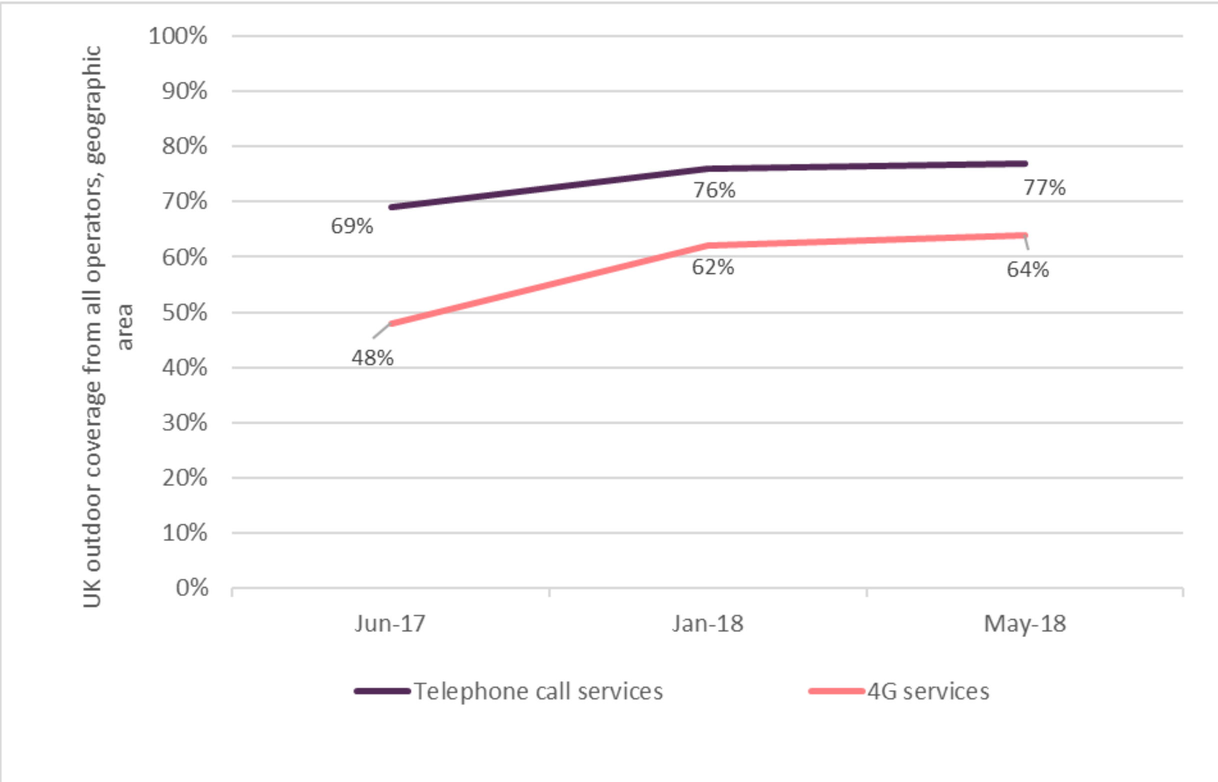
[10] Crowdsourcing is the use of data from a large number of people and, in this particular case, their mobile phones. This data is automatically collected and made available for analysis.

b) **Indoor:** The proportion of premises in which someone can use their phone. This measurement is useful for assessing the likelihood of successfully using a phone while at home or at work.

c) **Roads:** The proportion of the network of A and B roads on which someone can use their phone while inside a vehicle. This measurement is useful for assessing the likelihood of successfully using a phone while travelling in a vehicle between locations.

1.22 **Overall outdoor mobile coverage has improved, but the improvements vary considerably between operators and a quarter of the UK does not have coverage from all operators.** Seventy-seven per cent of the UK's geographic area is now covered by all four operators for telephone calls, up from 69% in June 2017[11]. Outdoor access to decent quality data services through 4G has also increased from 48% to 64% over the same period[12]. However, coverage varies considerably between operators and in our December update we intend to provide more detailed information for consumers regarding this variance.

**Figure 2: Outdoor area coverage of mobile services in the UK from all operators since June 2017**




*Source: Ofcom analysis of operator data, June 2017 – May 2018 (restated at September 2018)*

1.23 **Indoor coverage at UK premises for voice passes 90%.** Some 92% of UK premises have indoor telephone call coverage from all four mobile networks, up from 89% in June 2017.

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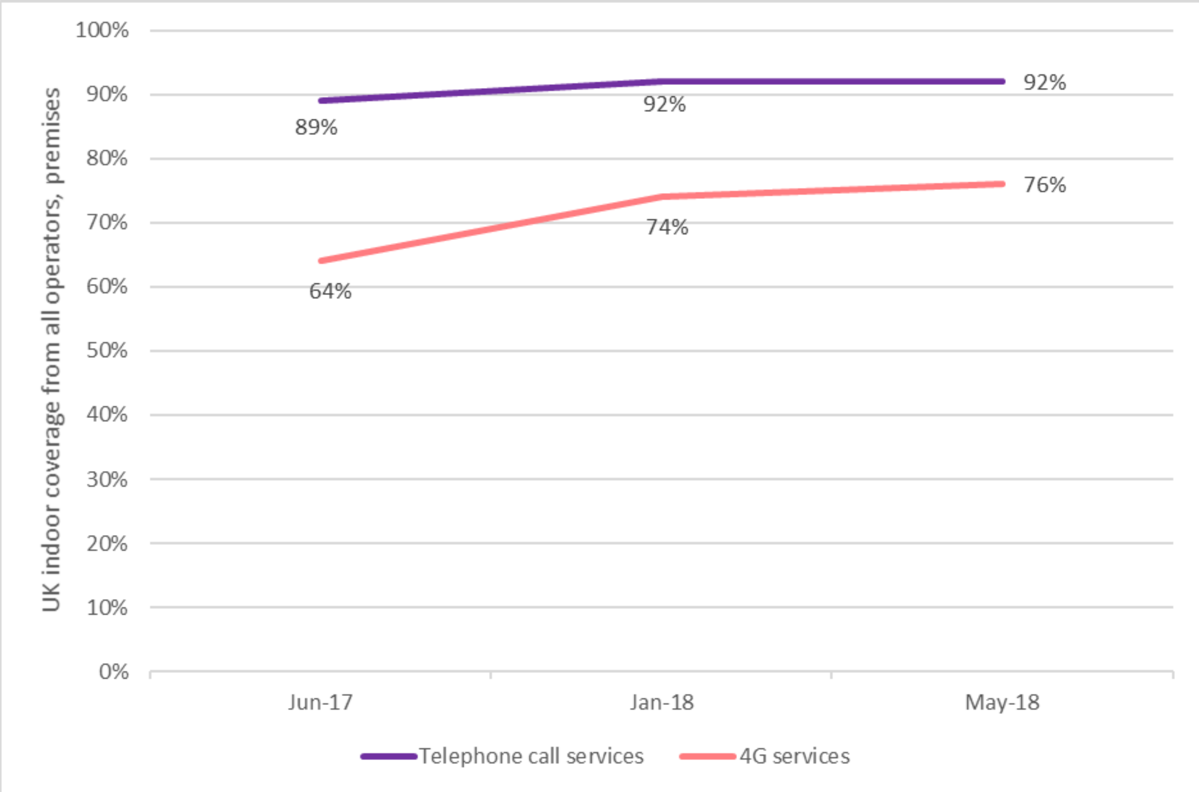
[11] These figures include voice calls over 4G LTE services.

[12] Outdoor access to data services through 3G and 4G (where nearly all connections have access to a connection speed of at least 200kbit/s) has similarly increased. 82% of the UK's geographic area now has a mobile data service from all four operators, up from 69% in June 2017.

**Figure 3: Indoor premises coverage of mobile services in the UK from all operators since June 2017**



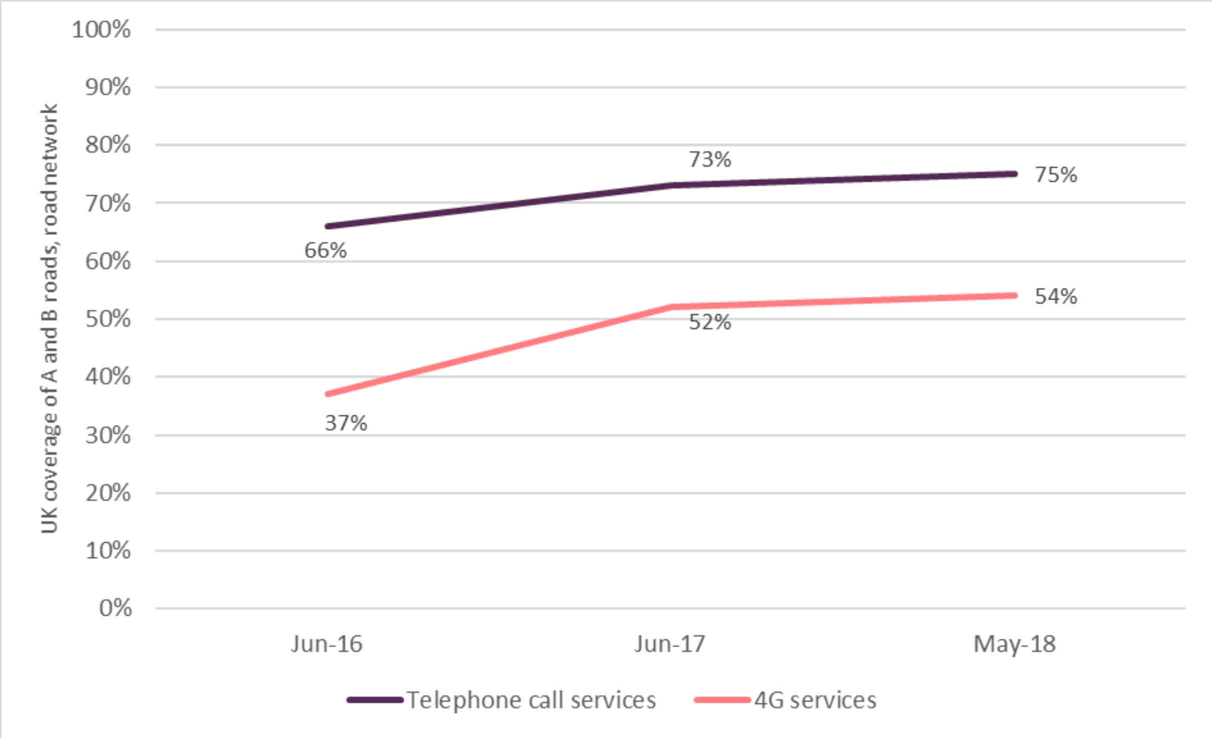

*Source: Ofcom analysis of operator data, June 2017 – May 2018 (restated at September 2018)*

1.24 **Three quarters of UK homes and businesses have 4G coverage indoors from all operators.** Seventy-six per centof UK premises are now covered by a decent 4G signal from all operators, up from 64% in June 2017[13].

1.25 **Three quarters of UK roads are covered for telephone calls from all operators.** Seventy-five per centof the UK's A and B roads are now covered by all operators for telephone calls, an increase from 66% in June 2017. On the remaining 25% of roads there will be coverage by fewer than four operators, which means the ability to make or receive a telephone call depends on which networks are available in different locations. In the event of a road accident or incident, emergency calls can be made on any available mobile network due to network sharing agreements mobile companies have in place. Around 3% of the UK's A and B roads have no coverage for calls from any operator, down from 5% in June 2017.

[13] Indoor access to data services through 3G and 4G (where nearly all connections have access to a connection speed of at least 200kbit/s) from all operators has similarly increased, 98% of UK premises now have a mobile data service from all operators, up from 94% in June 2017.

**Figure 4: A and B road coverage of mobile services in the UK from all operators since June 2017**




*Source: Ofcom analysis of operator data, June 2017 – May 2018 (restated at September 2018)*

1.26 **The picture varies across operators and across the nations.** While the ongoing roll-out of 4G services has led to improvements, mobile coverage is still worse in Northern Ireland, Scotland and Wales than it is in England. This is unsatisfactory and more needs to be done to improve coverage in the nations.

1.27 Coverage varies considerably among MNOs and remains poor in many places, with only 56% and 36% of geographic area covered by decent quality 4G services from all operators in Wales and Scotland respectively compared with 76% in Northern Ireland and 81% in England.

1.28 **Coverage obligations are one of the means Ofcom has to improve mobile coverage.** The award of the airwaves in the 700 MHz spectrum band to mobile services is one of a number of potential steps that could improve coverage. We have set out proposals to introduce new obligations on companies wishing to access these airwaves, including options to impose enhanced coverage, and we are currently considering related consultation responses. We will consult further on obligation proposals later this year.

1.29 We also recognise that coverage obligations alone will not solve all of the UK's mobile coverage problems and we continue to work with governments and industry on further measures to help improve mobile services for people and businesses across the UK.

# 2. Dashboards

In this section, figures incorporate all factors and corrections described earlier in this report. Figures in parentheses are those reported in previous Connected Nations reports and updates.

## Fixed broadband and mobile coverage - UK

| Fixed broadband services | UK premises coverage as of: | | |
|---|---|---|---|
| | May 2018 | January 2018 | May 2017 |
| Access to a download speed of 10Mbit/s or higher | 97%<br>28.5 million | 97%<br>28.4 million | 97%<br>28.3 million |
| Access to a download speed of 30Mbit/s or higher (superfast) | 93%<br>27.3 million | 93%<br>27.2 million | 91%<br>26.7 million |
| Access to a download speed of 300Mbit/s or higher (ultrafast) | 48%<br>14.0 million | 45%<br>13.2 million | 36%<br>10.6 million |
| Access to full fibre services[14] | 5%<br>1.4 million | 4%<br>1.2 million | 3%<br>840,000 |
| Unable to access a download speed of 10Mbit/s and an upload speed of 1Mbit/s (Universal Service Obligation minimum)[15] | 3%<br>0.86 million | 3%<br>0.93 million | 4%<br>1.07 million |

[14] We currently consider a property covered by full fibre services only if they can be connected within 14 days.
[15] This may exclude broadband services available from some smaller providers.

| Mobile services | UK coverage as of: | | |
|---|---|---|---|
| | May 2018 | Restated January 2018 *(original as previously published)* | Restated June 2017 *(original as previously published)* |
| **4G services[16]** | | | |
| Premises (indoor) covered by all operators[17] | 76% | 74% *(68%)* | 64% *(58%)* |
| Geographic area covered by all operators | 64% | 62% *(57%)* | 48% *(43%)* |
| Geographic area not covered by any operator | 11% | 12% *(13%)* | 21% *(22%)* |
| Coverage of A and B roads by all operators | 54% | 52% *(45%)* | 37% *(33%)* |
| A and B roads not covered by any operator | 6% | 7% *(8%)* | 15% *(16%)* |
| **Telephone call services (2G, 3G and 4G)[18]** | | | |
| Premises (indoor) covered by all operators | 92% | 92% *(92%)* | 89% *(90%)* |
| Geographic area covered by all operators | 77% | 76% *(76%)* | 69% *(70%)* |
| Geographic area not covered by any operator | 6% | 7% *(7%)* | 9% *(9%)* |
| Coverage of A and B roads by all operators | 75% | 73% *(75%)* | 66% *(68%)* |
| A and B roads not covered by any operator | 3% | 4% *(3%)* | 5% *(5%)* |

[16] Thresholds for 4G services: 4G (-105 dBm). This relates to nearly all connections being capable of delivering a connection speed of at least 2Mbit/s and reliable voice calls.
[17] The indoor coverage figures in this report take into account the effects of walls, doors, roofs etc. which will reduce or block mobile signals as they pass through. We have assumed that all buildings block mobile signals in the same way (by reducing signal strength by 10dB). In reality, some buildings will block signals more than others and we will reflect this in subsequent updates.
[18] Thresholds for voice and text are: 2G (-81 dBm), 3G (-100 dBm), 4G (-105 dBm).

## Fixed broadband and mobile coverage - England

| Fixed broadband services | England premises coverage as of: | | |
|---|---|---|---|
| | May 2018 | January 2018 | May 2017 |
| Access to a download speed of 10Mbit/s or higher | 98%<br>23.9 million | 98%<br>23.8 million | 97%<br>23.7 million |
| Access to a download speed of 30Mbit/s or higher (superfast) | 94%<br>22.9 million | 94%<br>22.8 million | 93%<br>22.6 million |
| Access to a download speed of 300Mbit/s or higher (ultrafast) | 50%<br>12.2 million | 47%<br>11.5 million | 39%<br>9.5 million |
| Access to full fibre services[19] | 5%<br>1.2 million | 4%<br>1.02 million | 3%<br>800,000 |
| Unable to access a download speed of 10Mbit/s and an upload speed of 1Mbit/s (Universal Service Obligation minimum)[20] | 3%<br>627,000 | 3%<br>677,000 | 3%<br>790,000 |

[19] We currently consider a property covered by full fibre services only if they can be connected within 14 days.
[20] This may exclude broadband services available from some smaller providers.

| Mobile services | England coverage as of: | | |
|---|---|---|---|
| | **May 2018** | **Restated January 2018** ***(original as previously published)*** | **Restated June 2017** ***(original as previously published)*** |
| **4G services**[21] | | | |
| Premises (indoor) covered by all operators[22] | 77% | 76% *(69%)* | 67% *(60%)* |
| Geographic area covered by all operators | 81% | 79% *(73%)* | 66% *(60%)* |
| Geographic area not covered by any operator | 3% | 3% *(3%)* | 5% *(5%)* |
| Coverage of A and B roads by all operators | 61% | 60% *(52%)* | 46% *(40%)* |
| A and B roads not covered by any operator | 3% | 3% *(4%)* | 7% *(8%)* |
| **Telephone call services (2G, 3G and 4G)**[23] | | | |
| Premises (indoor) covered by all operators | 93% | 93% *(93%)* | 91% *(91%)* |
| Geographic area covered by all operators | 91% | 91% *(91%)* | 87% *(88%)* |
| Geographic area not covered by any operator | 1% | 1% *(1%)* | 2% *(2%)* |
| Coverage of A and B roads by all operators | 82% | 82% *(83%)* | 76% *(78%)* |
| A and B roads not covered by any operator | 1% | 1% *(1%)* | 2% *(2%)* |

[21] Thresholds for 4G services: 4G (-105 dBm). This relates to nearly all connections being capable of delivering a connection speed of at least 2Mbit/s.

[22] The indoor coverage figures in this report take into account the effects of walls, doors, roofs etc. which will reduce or block mobile signals as they pass through. We have assumed that all buildings block mobile signals in the same way (by reducing signal strength by 10dB). In reality, some buildings will block signals more than others and we will reflect this in subsequent updates.

[23] Thresholds for voice and text are: 2G (-81 dBm), 3G (-100 dBm), 4G (-105 dBm).

## Fixed broadband and mobile coverage – Northern Ireland

| Fixed broadband services | NI premises coverage as of | | |
|---|---|---|---|
| | May 2018 | January 2018 | May 2017 |
| Access to a download speed of 10Mbit/s or higher | 94%<br>721,000 | 94%<br>721,000 | 93%<br>718,000 |
| Access to a download speed of 30Mbit/s or higher (superfast) | 88%<br>675,000 | 88%<br>675,000 | 85%<br>658,000 |
| Access to a download speed of 300Mbit/s or higher (ultrafast) | 38%<br>295,000 | 35%<br>266,000 | 25%<br>196,000 |
| Access to full fibre services | 8%<br>63,200 | 8%<br>58,200 | 0.7%<br>5,600 |
| Unable to access a download speed of 10Mbit/s and an upload speed of 1Mbit/s (Universal Service Obligation minimum)[24] | 6%<br>46,500 | 7%<br>50,500 | 7%<br>55,600 |

[24] This may exclude broadband services available from some smaller providers.

| Mobile services | NI coverage as of: | | |
|---|---|---|---|
| | May 2018 | Restated January 2018 *(original as previously published)* | Restated June 2017 *(original as previously published)* |
| **4G services[25]** | | | |
| Premises (indoor) covered by all operators | 56% | 56% *(52%)* | 46% *(44%)* |
| Geographic area covered by all operators | 76% | 76% *(72%)* | 63% *(60%)* |
| Geographic area not covered by any operator | 3% | 3% *(3%)* | 5% *(6%)* |
| Coverage of A and B roads by all operators | 47% | 46% *(39%)* | 29% *(26%)* |
| A and B roads not covered by any operator | 6% | 6% *(7%)* | 10% *(12%)* |
| **Telephone call services (2G, 3G and 4G)[26]** | | | |
| Premises (indoor) covered by all operators | 80% | 79% *(81%)* | 75% *(78%)* |
| Geographic area covered by all operators | 87% | 87% *(87%)* | 79% *(83%)* |
| Geographic area not covered by any operator | 1% | 1% *(1%)* | 1% *(1%)* |
| Coverage of A and B roads by all operators | 67% | 66% *(69%)* | 55% *(62%)* |
| A and B roads not covered by any operator | 3% | 3% *(3%)* | 4% *(4%)* |

[25] Thresholds for 4G services: 4G (-105 dBm). This relates to nearly all connections being capable of delivering a connection speed of at least 2Mbit/s.
[26] Thresholds for voice and text are: 2G (-81 dBm), 3G (-100 dBm), 4G (-105 dBm).

## Fixed broadband and mobile coverage - Scotland

| **Fixed broadband services** | **Scotland premises coverage as of:** | | |
|---|---|---|---|
| | **May 2018** | **January 2018** | **May 2017** |
| Access to a download speed of 10Mbit/s or higher | 95%<br>2.5 million | 95%<br>2.5 million | 95%<br>2.5 million |
| Access to a download speed of 30Mbit/s or higher (superfast) | 91%<br>2.4 million | 91%<br>2.4 million | 87%<br>2.3 million |
| Access to a download speed of 300Mbit/s or higher (ultrafast) | 43%<br>1.12 million | 41%<br>1.08 million | 30%<br>797,000 |
| Access to full fibre services | 3%<br>72,900 | 2%<br>62,900 | 0.7%<br>19,200 |
| Unable to access a download speed of 10Mbit/s and an upload speed of 1Mbit/s (Universal Service Obligation minimum)[27] | 5%<br>130,800 | 5%<br>134,400 | 6%<br>154,800 |

[27] This may exclude broadband services available from some smaller providers.

| Mobile services | Scotland coverage as of: | | |
|---|---|---|---|
| | May 2018 | Restated January 2018 *(original as previously published)* | Restated June 2017 *(original as previously published)* |
| **4G services**[28] | | | |
| Premises (indoor) covered by all operators | 74% | 72% *(67%)* | 57% *(53%)* |
| Geographic area covered by all operators | 36% | 33% *(30%)* | 19% *(17%)* |
| Geographic area not covered by any operator | 25% | 30% *(31%)* | 50% *(52%)* |
| Coverage of A and B roads by all operators | 39% | 36% *(32%)* | 20% *(18%)* |
| A and B roads not covered by any operator | 15% | 19% *(20%)* | 37% *(28%)* |
| **Telephone call services (2G, 3G and 4G)**[29] | | | |
| Premises (indoor) covered by all operators | 91% | 90% *(90%)* | 86% *(87%)* |
| Geographic area covered by all operators | 52% | 49% *(50%)* | 39% *(40%)* |
| Geographic area not covered by any operator | 16% | 17% *(17%)* | 23% *(22%)* |
| Coverage of A and B roads by all operators | 57% | 55% *(56%)* | 44% *(46%)* |
| A and B roads not covered by any operator | 8% | 10% *(9%)* | 15% *(15%)* |

[28] Thresholds for 4G services: 4G (-105 dBm). This relates to nearly all connections being capable of delivering a connection speed of at least 2Mbit/s.
[29] Thresholds for voice and text are: 2G (-81 dBm), 3G (-100 dBm), 4G (-105 dBm).

## Fixed broadband and mobile coverage - Wales

| Fixed broadband services | Wales premises coverage as of: | | |
|---|---|---|---|
| | May 2018 | January 2018 | May 2017 |
| Access to a download speed of 10Mbit/s or higher | 96%<br>1.4 million | 96%<br>1.4 million | 95%<br>1.4 million |
| Access to a download speed of 30Mbit/s or higher (superfast) | 92%<br>1.3 million | 92%<br>1.3 million | 89%<br>1.3 million |
| Access to a download speed of 300Mbit/s or higher (ultrafast) | 27%<br>393,000 | 23%<br>328,800 | 10%<br>144,000 |
| Access to full fibre services | 5%<br>75,400 | 5%<br>68,400 | 3%<br>44,500 |
| Unable to access a download speed of 10Mbit/s and an upload speed of 1Mbit/s (Universal Service Obligation minimum)[30] | 4%<br>61,000 | 4%<br>63,200 | 5%<br>73,800 |

[30] This may exclude broadband services available from some smaller providers.

| Mobile services | Wales coverage as of: | | |
|---|---|---|---|
| | May 2018 | Restated January 2018 *(original as previously published)* | Restated June 2017 *(original as previously published)* |
| **4G services** | | | |
| Premises (indoor) covered by all operators | 67% | 64% *(52%)* | 44% *(34%)* |
| Geographic area covered by all operators | 56% | 51% *(45%)* | 28% *(24%)* |
| Geographic area not covered by any operator | 11% | 12% *(12%)* | 23% *(24%)* |
| Coverage of A and B roads by all operators | 43% | 39% *(32%)* | 19% *(16%)* |
| A and B roads not covered by any operator | 10% | 12% *(12%)* | 24% *(25%)* |
| **Telephone call services (2G, 3G and 4G)** [31] | | | |
| Premises (indoor) covered by all operators | 87% | 86% *(86%)* | 79% *(80%)* |
| Geographic area covered by all operators | 75% | 73% *(73%)* | 61% *(62%)* |
| Geographic area not covered by any operator | 5% | 5% *(5%)* | 9% *(9%)* |
| Coverage of A and B roads by all operators | 68% | 65% *(66%)* | 51% *(53%)* |
| A and B roads not covered by any operator | 6% | 6% *(6%)* | 10% *(9%)* |

[31] Thresholds for voice and text are: 2G (-81 dBm), 3G (-100 dBm), 4G (-105 dBm).

# 3. Earlier generation 3G data services - dashboards

To provide historical comparison with previous Connected Nations reports, this dashboard reports on the availability of lower speed earlier generation 3G data services. These are reported in combination with lower speed 4G data services where either are likely to provide a connection speed of at least 200kbit/s for nearly all connections. These connections are likely to be sufficient to support lower speed data services such as webrowsing as opposed to higher resolution video.

## Lower speed mobile data coverage - UK

| Mobile services | UK coverage as of | | |
|---|---|---|---|
| | **May 2018** | **Restated January 2018** *(original as previously published)* | **Restated June 2017** *(original as previously published)* |
| **3G and 4G data services (200kbit/s)[32]** | | | |
| Premises (indoor) covered by all operators | 98% | 97% *(88%)* | 94% *(85%)* |
| Geographic area covered by all operators | 82% | 80% *(70%)* | 69% *(63%)* |
| Geographic area not covered by any operator | 5% | 6% *(7%)* | 12% *(12%)* |
| Coverage of A and B roads by all operators | 86% | 84% *(65%)* | 73% *(58%)* |
| A and B roads not covered by any operator | 2% | 3% *(4%)* | 8% *(7%)* |

[32] Thresholds for Basic data are: 3G (-100 dBm), 4G (-115 dBm). These relate to nearly all connections being capable of delivering a connection speed of at least 200kbit/s.

## Lower speed mobile data coverage - England

| Mobile services | England coverage as of: | | |
|---|---|---|---|
| | May 2018 | Restated January 2018 *(original as previously published)* | Restated June 2017 *(original as previously published)* |
| **3G and 4G data services (200kbit/s)** | | | |
| Premises (indoor) covered by all operators | 98% | 98% *(89%)* | 95% *(87%)* |
| Geographic area covered by all operators | 95% | 95% *(86%)* | 90% *(82%)* |
| Geographic area not covered by any operator | 1% | 1% *(1%)* | 2% *(2%)* |
| Coverage of A and B roads by all operators | 93% | 92% *(72%)* | 85% *(67%)* |
| A and B roads not covered by any operator | 1% | 1% *(1%)* | 2% *(2%)* |

## Lower speed mobile data coverage - NI

| Mobile services | NI coverage as of: | | |
|---|---|---|---|
| | May 2018 | Restated January 2018 *(original as previously published)* | Restated June 2017 *(original as previously published)* |
| **3G and 4G data services (200kbit/s)** | | | |
| Premises (indoor) covered by all operators | 92% | 92% *(78%)* | 87% *(75%)* |
| Geographic area covered by all operators | 94% | 93% *(80%)* | 87% *(76%)* |
| Geographic area not covered by any operator | 0% | 0% *(1%)* | 1% *(2%)* |
| Coverage of A and B roads by all operators | 86% | 86% *(58%)* | 76% *(54%)* |
| A and B roads not covered by any operator | 1% | 1% *(3%)* | 2% *(4%)* |

## Lower speed mobile data coverage - Scotland

| Mobile services | Scotland coverage as of: | | |
|---|---|---|---|
| | May 2018 | Restated January 2018 *(original as previously published)* | Restated June 2017 *(original as previously published)* |
| **3G and 4G data services (200kbit/s)** | | | |
| Premises (indoor) covered by all operators | 96% | 95% *(87%)* | 89% *(82%)* |
| Geographic area covered by all operators | 56% | 53% *(42%)* | 35% *(31%)* |
| Geographic area not covered by any operator | 13% | 16% *(18%)* | 33% *(33%)* |
| Coverage of A and B roads by all operators | 67% | 62% *(50%)* | 46% *(39%)* |
| A and B roads not covered by any operator | 8% | 11% *(11%)* | 26% *(22%)* |

## Lower speed mobile data coverage - Wales

| Mobile services | Wales coverage as of: | | |
|---|---|---|---|
| | May 2018 | Restated January 2018 *(original as previously published)* | Restated June 2017 *(original as previously published)* |
| **3G and 4G data services (200kbit/s)** | | | |
| Premises (indoor) covered by all operators | 94% | 92% *(82%)* | 80% *(73%)* |
| Geographic area covered by all operators | 82% | 79% *(70%)* | 56% *(52%)* |
| Geographic area not covered by any operator | 3% | 3% *(5%)* | 8% *(9%)* |
| Coverage of A and B roads by all operators | 77% | 73% *(60%)* | 50% *(42%)* |
| A and B roads not covered by any operator | 4% | 5% *(5%)* | 12% *(10%)* |