

# Connected Nations 2020

## Northern Ireland report



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# Overview

This annual report measures progress in the availability and capability of broadband and mobile services in Northern Ireland and highlights the work Ofcom is doing, alongside UK and devolved governments and communications companies, to improve the UK's connectivity.

Alongside this Northern Ireland report, we publish a [UK report](#), as well as reports for [Scotland](#), [Wales](#) and [England](#). We also provide an [interactive dashboard](#), allowing people to see data for different areas, services and coverage levels. We are also releasing the [International Broadband Scorecard 2020](#), which compares the UK's recent position on broadband availability with a number of other European nations.

## Key findings:

### Broadband

- Four hundred and twenty-two thousand homes (56%) in Northern Ireland now have access to full-fibre broadband connections; over 190,000 more than last year. These connections can deliver much higher download speeds and are also more reliable than older, copper-based broadband. Among the four UK nations, Northern Ireland (56%) has the highest availability of full fibre services, compared to England (16%), Scotland (17%) and Wales (19%).
- Superfast broadband (at least 30 Mbit/s) is available to 89% of premises in Northern Ireland, unchanged from last year.
- The average download speed delivered to premises in Northern Ireland is 64 Mbit/s. This has increased from 55 Mbit/s in 2019 and reflects increasing availability of faster broadband services.
- Average monthly broadband data use in Northern Ireland has gone up from 322 GB per connection in 2019, to 444 GB in 2020.

### Mobile

- Good 4G services from all four operators are available (outdoor) across 79% of the Northern Ireland landmass while voice services from all four operators are available to 87% of the Northern Ireland landmass (outdoor).
- 4G services from all four operators are available in 65% of premises while voice services from all operators are available in 81% of premises in Northern Ireland.
- In-vehicle 4G coverage is available on 58% of Northern Ireland's major roads from all operators while voice services from all operators are available on around three quarters of major roads (74%).



# Fixed broadband services in Northern Ireland

## Fixed broadband scorecard - 2020

|  | Northern Ireland | UK        |
|--|------------------|-----------|
| <b>Coverage of broadband (% of residential premises):</b>  |                  |           |
| <b>Superfast broadband (<math>\geq 30</math> Mbit/s)</b>   | 89%              | 96%       |
| Urban  | 99%              | 98%       |
| Rural  | 66%              | 81%       |
| <b>Ultrafast broadband (<math>\geq 300</math> Mbit/s)</b>  | 64%              | 65%       |
| Urban  | 82%              | 59%       |
| Rural  | 17%              | 20%       |
| <b>Gigabit capable broadband</b>   | 56%              | 27%       |
| Urban  | 71%              | 29%       |
| Rural  | 17%              | 17%       |
| <b>Full-fibre broadband</b>  | 56%              | 18%       |
| Urban  | 71%              | 18%       |
| Rural  | 17%              | 17%       |
| <b>Percentage of residential and business premises unable to get 10 Mbit/s download &amp; 1 Mbit/s upload speed via a fixed connection</b> | 6%               | 2%        |
| Urban  | 1%               | 1%        |
| Rural  | 19%              | 10%       |
| <b>Average download speed</b>  | 64 Mbit/s        | 73 Mbit/s |
| Urban  | 74 Mbit/s        | 77 Mbit/s |
| Rural  | 40 Mbit/s        | 50 Mbit/s |
| <b>Average monthly data usage (per residential connection)</b>   | 444 GB           | 429 GB    |

Source: Ofcom analysis of operator data.



## Introduction

We want everyone to be able to access fast and reliable voice and broadband services, wherever they live and work. These communications services have never been more important than in 2020.

The Covid-19 pandemic has highlighted the importance of connectivity for UK consumers as a vital part of how businesses and people communicate and consume information and entertainment.

Connectivity in Northern Ireland continues to improve, as existing networks are being upgraded and new fixed infrastructure is being built. We support the investment in gigabit-capable and full fibre networks – as do the UK and devolved governments – which give people fast, reliable and future-proofed connections.

Superfast broadband is available to

**89%**

of premises in **Northern Ireland**

While **56%** of premises can get full fibre services

Average download speeds = **64 Mbit/s**

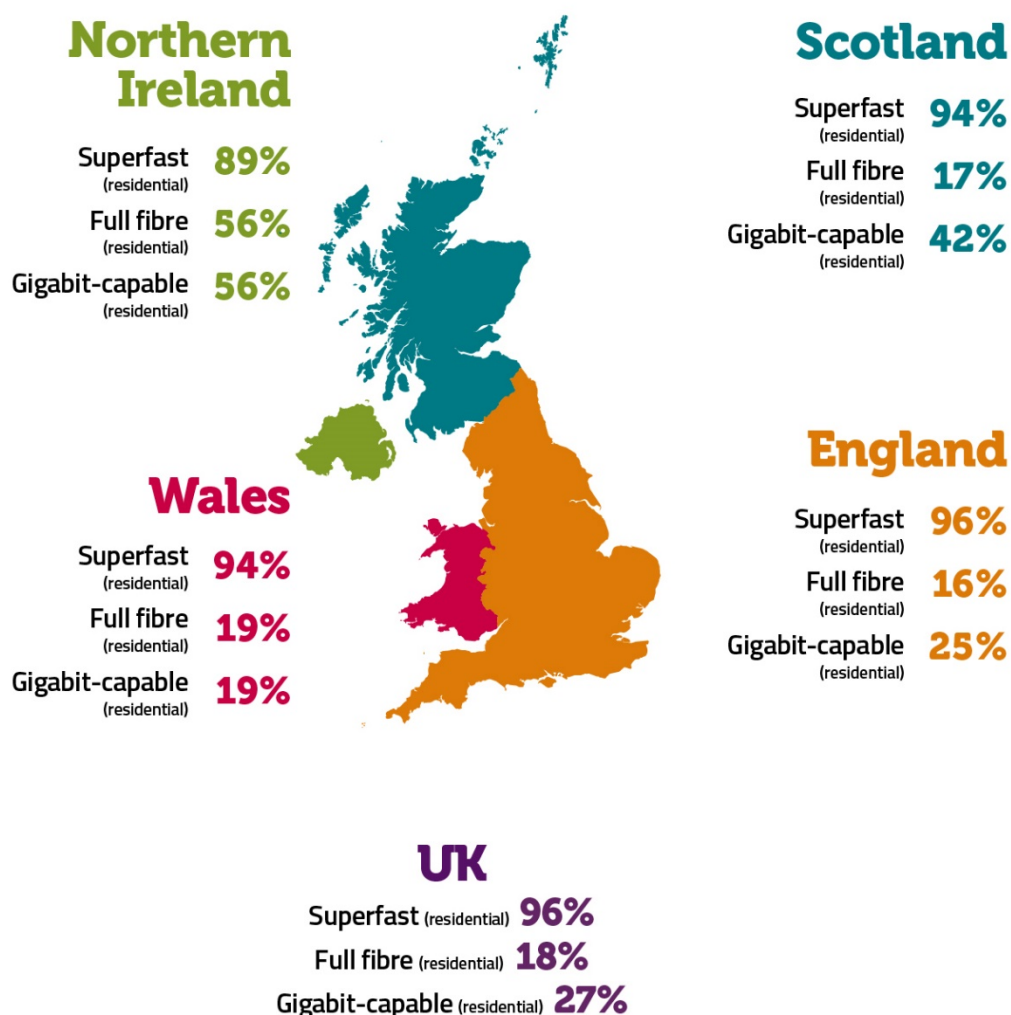


### Key highlights:

- Full fibre broadband services are now available to 56% of residential premises in Northern Ireland, up from 31% in 2019.<sup>1</sup>
- Superfast broadband ( $\geq 30$  Mbit/s) is available to 89% of premises in Northern Ireland, unchanged from 2019.
- Average broadband download speeds in Northern Ireland have increased by 16% to 64 Mbit/s, up from 55 Mbit/s in 2019. Average download speeds are lower in rural areas but have increased to 40 Mbit/s in 2020, compared to 35 Mbit/s in 2019.
- Average monthly data use (upload and download) per broadband line in Northern Ireland has increased by 38% to 444 GB.

<sup>1</sup> Unless otherwise specified, coverage figures for decent broadband count all UK premises (residential and commercial). Coverage for all other speed tiers counts residential premises only, unless otherwise specified.

## Summary of fixed line broadband coverage across the UK and Nations



In Northern Ireland two key themes have emerged over the last year. In areas where there is a commercial interest in building new full fibre networks there continues to be aggressive build-out by Openreach, Virgin Media and Fibrus Networks.

As a consequence, Northern Ireland now has the highest full fibre coverage of any UK nation and even in areas that are considered more rural, fibre is being deployed to towns, villages and smaller settlements. Some 56% of residential premises (422,000) are now able to get a full fibre connection – 190,000 more than a year ago.

Full-fibre broadband is available to  
**56%** of premises in Northern Ireland



And that number is set to increase further with the main network providers planning further investment. Openreach says it expects its full fibre network to reach 60% of premises in Northern Ireland by March 2021<sup>2</sup> while Fibrus<sup>3</sup> and Virgin Media<sup>4</sup> are continuing to expand their full fibre footprints.

However, there remains a significant number of premises – those that are hardest and most expensive to reach – where there is little or no commercial incentive to invest. So while high speed, full fibre coverage is expanding apace in some areas, the number of premises in Northern Ireland that can't get a superfast service ( $\geq 30$  Mbit/s) is also high, at around 11 per cent. This is the highest of the UK nations and has remained unchanged for several years.

But progress is expected in this area over the coming months with the commencement of a major publicly funded broadband improvement scheme, Project Stratum.

Project Stratum, which is being funded by £150m from the UK Government and £15m from the Department for Agriculture, Environment and Rural Affairs, aims to bring next generation broadband to premises across Northern Ireland currently unable to access speeds of 30 Mbit/s or more<sup>5</sup>.

The Department for the Economy, which is managing the project, estimates it will benefit 97% of those premises, with the winning bidder, Fibrus Networks, proposing to connect more than 76,000 premises with a “full fibre solution” capable of delivering 1 Gbit/s download speeds. Fibrus is also providing a “substantial” investment in network build costs.

Customers connected through Project Stratum will have a choice of internet service providers as the network will be provided on an open access basis.

The contract was awarded in November 2020 with work expected to start immediately and run until March 2024. When complete, the project would still leave around 3,000 premises unable to get a superfast service. The Department for the Economy has said it will continue to work with Fibrus and the Department for Digital, Culture, Media & Sport to deliver infrastructure to serve these premises.

## Fixed broadband coverage

### Superfast broadband is available to 89% of residential premises in Northern Ireland

Superfast broadband services ( $\geq 30$  Mbit/s) are available to 89% of premises in Northern Ireland. This is the lowest of the four UK nations and remains unchanged from a year ago. These are premises that are the hardest and most expensive to reach and where it is unlikely commercially driven investment will deliver network improvements.

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<sup>2</sup> <https://www.openreach.com/news/openreach-speeds-past-50-full-fibre-broadband-milestone-in-northern-ireland/>

<sup>3</sup> <https://www.ispreview.co.uk/index.php/2020/06/isp-fibrus-commits-to-help-n-ireland-hit-100-ftp-broadband.html>

<sup>4</sup> <https://www.virginmedia.com/corporate/media-centre/press-releases/virgin-medias-network-expanded-to-bring-ultrafast-connectivity-to-half-of-all-premises-in-northern-ireland>

<sup>5</sup> <https://www.economy-ni.gov.uk/news/ps165m-broadband-improvement-contract-awarded-fibrus-networks-ltd>

As highlighted earlier, the vast majority of premises that don't have access to superfast services will benefit from the Project Stratum broadband investment scheme.

Despite the current and planned investment in broadband networks in Northern Ireland, some hard to reach premises may still not get a broadband service capable of delivering at least superfast speeds. This number will be greatly reduced after the completion of Project Stratum in 2024 but will still be around three thousand premises, according to the Department for the Economy.

These premises could be served through a fixed connection or through technologies more suited to remote locations such as fixed wireless access (FWA) delivered over 4G and 5G networks, Wireless Internet Service Providers (WISP) or satellite broadband. More detailed analysis of these technologies is provided in the main [UK Connected Nations 2020 report](#).

Some may also be able to avail of the Universal Service Obligation (USO), which aims to provide those who can't presently get a decent broadband service with one delivering a minimum 10 Mbit/s download speed and 1 Mbit/s upload speed. Certain eligibility and cost conditions apply. These mean that premises that can get an FWA service or that are due to benefit from a public intervention scheme, such as Project Stratum, within 12 months aren't eligible. Further, the connection is only provided free of charge if the cost of doing so is below £3,400.

As of 30 September, orders had been placed that would lead to 253 premises in Northern Ireland being served by the USO. Further information is available at [bt.com/broadband/uso](http://bt.com/broadband/uso).

**Figure 1: Coverage of superfast broadband (>=30 Mbit/s)**

| <b>Nation</b>           | <b>% of premises (residential)</b> |
|-------------------------|------------------------------------|
| <b>UK</b>               | 96%                                |
| <b>England</b>          | 96%                                |
| <b>Scotland</b>         | 94%                                |
| <b>Wales</b>            | 94%                                |
| <b>Northern Ireland</b> | 89%                                |
| Urban                   | 99%                                |
| Rural                   | 66%                                |

*Source: Ofcom analysis of operator data.*



## Superfast broadband available to two thirds of premises in rural areas

Broadband speeds and superfast broadband availability are lower in rural areas. While services that deliver superfast speeds are available to 89% of residential premises across Northern Ireland, these services are available to just 66% of premises in rural areas. These figures again highlight the impact Project Stratum will have on rural areas especially.

### More than half of premises have access to gigabit capable services

While investment activity has been limited in targeting premises that are expensive to reach and consequently have poorer broadband, commercially driven investment has continued apace in locations where market conditions are more favourable.

Gigabit capable services were available to 56% of premises (422,000) in Northern Ireland in September 2020 – the highest of the UK nations. And this is set to improve further with continued commercial build-out of full fibre networks and the recent upgrade of Virgin Media's network in Northern Ireland<sup>6</sup>. The latter will be reflected in future Connected Nations updates, as data for this report was collected in September 2020.

### Superfast broadband coverage across the UK

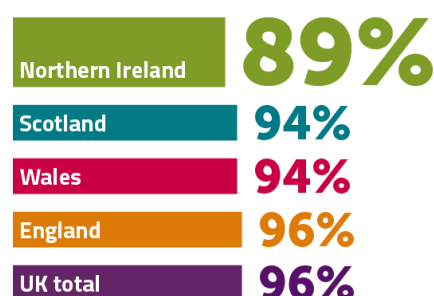


Figure 2: Coverage of gigabit capable broadband ( $\geq 1$  Gbit/s)

| Nation           | % of premises (residential) |
|------------------|-----------------------------|
| UK               | 27%                         |
| England          | 25%                         |
| Scotland         | 42%                         |
| Wales            | 19%                         |
| Northern Ireland | 56%                         |
| Urban            | 71%                         |
| Rural            | 17%                         |

Source: Ofcom analysis of operator data.

<sup>6</sup> <https://www.virginmedia.com/corporate/media-centre/press-releases/virgin-media-brings-gigabit-broadband-to-its-entire-northern-ireland-network>

## NI has the highest coverage of full fibre services in the UK

The most striking headline in this Northern Ireland Connected Nations report is that more than half of premises (56%) are able to access full fibre services. The total number of residential premises with access to these services is now 422,000; over 190,000 more than last year. Full fibre networks are capable of delivering speeds in excess of 1 Gbit/s.

Among the four UK nations, Northern Ireland (56%) has the highest availability of full fibre services, compared to England (16%), Scotland (17%) and Wales (19%).

Full-fibre broadband services are delivered by fibre only networks whereas gigabit capable services can be delivered through fibre or upgraded hybrid fibre-coaxial infrastructure such as that employed in parts of Virgin Media's network.

While full fibre and gigabit capable coverage is the same in Northern Ireland presently and we expect both measures to have increased further by the time of our Spring 2021 update, we anticipate the growth in gigabit coverage will be greater as a consequence of Virgin Media's recent upgrade of its entire Northern Ireland network to be gigabit capable.

### Full-fibre broadband coverage across the UK

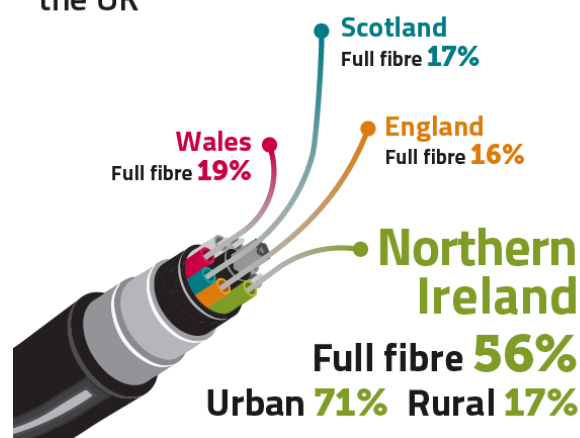


Figure 3: Premises served by full fibre

| Nation           | % of premises (residential) |
|------------------|-----------------------------|
| UK               | 18%                         |
| England          | 16%                         |
| Scotland         | 17%                         |
| Wales            | 19%                         |
| Northern Ireland | 56%                         |
| Urban            | 71%                         |
| Rural            | 17%                         |

Source: Ofcom analysis of operator data.

## Average download speeds in Northern Ireland have increased by 16%

The average download speed delivered to premises in Northern Ireland is 64 Mbit/s. This has increased from 55 Mbit/s last year and reflects increasing availability of faster broadband services.

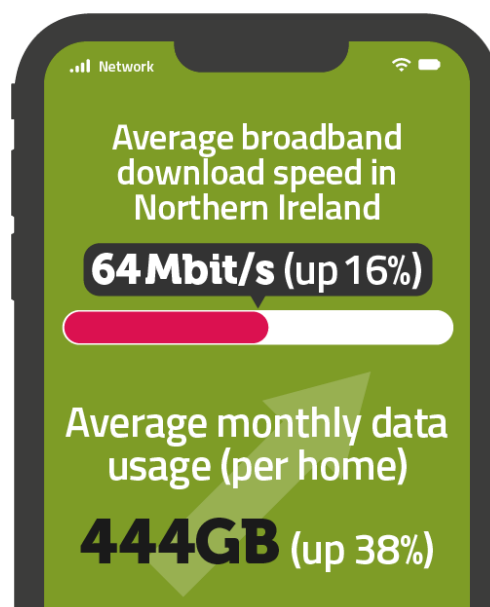
Average download speeds are lower in rural areas (40 Mbit/s) though this too has increased from 35 Mbit/s in 2019.

Average monthly data usage in Northern Ireland has increased from 322 GB to 444 GB.

Figure 4: Average download / upload speeds and monthly data usage

|                  | Average download speed (Mbit/s) | Average monthly data usage (GB) |
|------------------|---------------------------------|---------------------------------|
| Northern Ireland | 64 Mbit/s                       | 444 GB                          |
| Urban            | 74 Mbit/s                       | 459 GB                          |
| Rural            | 40 Mbit/s                       | 406 GB                          |

Source: Ofcom analysis of operator data



## Local Authority coverage data

This section provides an overview of some of the data available at local authority level in Northern Ireland. More detailed information on this as well as Westminster constituency level data is available via the [interactive portal](#) on the Ofcom website.

### Coverage of faster broadband is higher in urban areas

Broadband services and speeds vary across Northern Ireland between urban and rural areas. As highlighted earlier, this is because properties in rural areas tend to be more dispersed and are more expensive to provide new, faster, fixed line broadband services to.

Consequently, local authority areas with greater numbers of rural premises have lower availability of superfast ( $\geq 30$  Mbit/s) and full fibre services. Conversely, those local authority areas such as Belfast, which are more densely populated, have much greater availability of higher speed broadband services.

Fermanagh and Omagh District Council area has the lowest availability of superfast broadband at just 68%. Similarly, superfast broadband coverage in Mid Ulster is 77%. That these figures have remained largely unchanged in recent years demonstrates the importance of publicly funded investment schemes like Project Stratum.

Indeed, while most areas will see some investment as a result of this project, these more rural council areas will benefit most with tens of thousands of properties targeted to receive new full fibre connections.

In urban, more densely populated parts of these council areas, commercially led investment is already starting to bear fruit. So, while Fermanagh and Omagh Council area has the lowest full fibre coverage in Northern Ireland, at 25% of premises it is still some way ahead of the UK-wide average of 18%.

**Figure 5: Coverage of superfast and full-fibre broadband (% of premises)**

| Local authority                      | % of premises (residential) |            |
|--------------------------------------|-----------------------------|------------|
|                                      | >=30 Mbit/s (Superfast)     | Full fibre |
| Belfast                              | 99%                         | 73%        |
| Ards and North Down                  | 95%                         | 70%        |
| Lisburn and Castlereagh              | 93%                         | 58%        |
| Antrim and Newtownabbey              | 92%                         | 66%        |
| Derry City and Strabane              | 91%                         | 55%        |
| Mid and East Antrim                  | 90%                         | 61%        |
| Armagh City, Banbridge and Craigavon | 88%                         | 59%        |
| Causeway Coast and Glens             | 86%                         | 42%        |
| Newry, Mourne and Down               | 83%                         | 35%        |
| Mid Ulster                           | 77%                         | 33%        |
| Fermanagh and Omagh                  | 68%                         | 25%        |
| NI                                   | 89%                         | 56%        |

Source: Ofcom analysis of operator data.

## Broadband service take-up

This report collects and reports on the performance of active lines and not the products that consumers are signed up to and, as such, is only indicative of take-up. Our analysis suggests that in June 2020, 58% of premises in Northern Ireland with a broadband connection had a superfast service ( $\geq 30$  Mbit/s) or above and 6% of premises had a full fibre service.

**Figure 7: Take-up of broadband service by speed (as a percentage of total broadband coverage)**

| Nation           | Superfast and above | Full fibre |
|------------------|---------------------|------------|
| UK               | 57%                 | 3%         |
| England          | 58%                 | 3%         |
| Scotland         | 53%                 | 3%         |
| Wales            | 52%                 | 3%         |
| Northern Ireland | 58%                 | 6%         |

Source: Ofcom analysis of operator data.

When looking only at areas where full fibre is available, some 11% of premises were taking a full fibre service.

**Figure 8: Take-up of broadband service by speed (as a percentage of premises where those services are available)**

| Nation           | Superfast and above | Full fibre |
|------------------|---------------------|------------|
| UK               | 60%                 | 25%        |
| England          | 61%                 | 27%        |
| Scotland         | 57%                 | 25%        |
| Wales            | 55%                 | 22%        |
| Northern Ireland | 65%                 | 11%        |

Source: Ofcom analysis of operator data.

## Helping customers choose the right broadband service

Ofcom has work underway to help consumers understand their broadband choices, and to see the potential benefits that faster connections may give them. Ofcom's Boost Your Broadband campaign seeks to help customers understand the broadband choices available to them, and to understand the additional benefits of a faster connection<sup>7</sup>.

We have also worked to ensure consumers are made aware of when their contract period is coming to an end. Since February 2020, providers have been required to issue End of Contract Notifications. These tell people when their contract is coming to an end, what they will pay when it does, the best

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<sup>7</sup> <https://www.boostyourbroadband.com/>



deals their provider can offer them, and that they have the choice to switch providers at the end of their minimum contract period if they wish<sup>8</sup>. Additionally, for out-of-contract customers, providers are required from February 2021 to issue Annual Best Tariff Notifications, telling them that they are out of contract and the best tariffs they can offer.

Full fibre and gigabit-capable connections are still relatively new to UK consumers. In August 2020, the UK government convened a new taskforce ('GigaTAG') to drive consumer take-up of gigabit speed internet connections. Ofcom is participating in this work and will continue to work with industry, governments and consumer bodies on communicating the benefits of gigabit-capable technologies as they become more widely available.

## **Increasing demand during Covid-19**

During 2020, the UK's fixed access networks have seen significantly increased demand from users, as the lockdown due to the coronavirus pandemic saw significantly more people using their home broadband connections for work, for keeping in touch with friends and family, for accessing essential services and for leisure. Networks generally had the capacity to meet user demands.

### **Data usage during Covid-19**

We gathered data (covering the period from February to July) from a range of network operators to understand how traffic on fixed broadband networks from residential and business customers changed during this time before and after lockdown.

Overall, the networks coped well. For major networks, peak traffic increased during the early phase of the first lockdown in late March and April although generally remained below the spikes in peak traffic seen immediately prior to lockdown when major gaming releases coincided with the peak times. After this initial increase, peak traffic remained largely constant on average, meaning traffic levels remained higher than prior to lockdown, though this varied across different networks. Further detail and analysis can be found in the main [UK Connected Nations 2020 report](#).

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<sup>8</sup> <https://www.ofcom.org.uk/about-ofcom/latest/media/media-releases/2020/companies-must-tell-customers-about-their-best-deals>



# Mobile services in Northern Ireland

## Introduction

Mobile services are an important part of people's daily lives. The experience of the Covid-19 pandemic has further emphasised the reliance society and business place on access to good mobile services and the key role these services play in helping people to communicate and stay in touch.

In this chapter we provide an update on coverage both outside and inside premises, across Northern Ireland's landmass and on roads.

### Key highlights:

#### Geographic coverage:

- Good 4G services from all four operators are available across 79% of the Northern Ireland landmass (outdoor).
- Voice services from all four operators are available to 87% of the Northern Ireland landmass (outdoor).

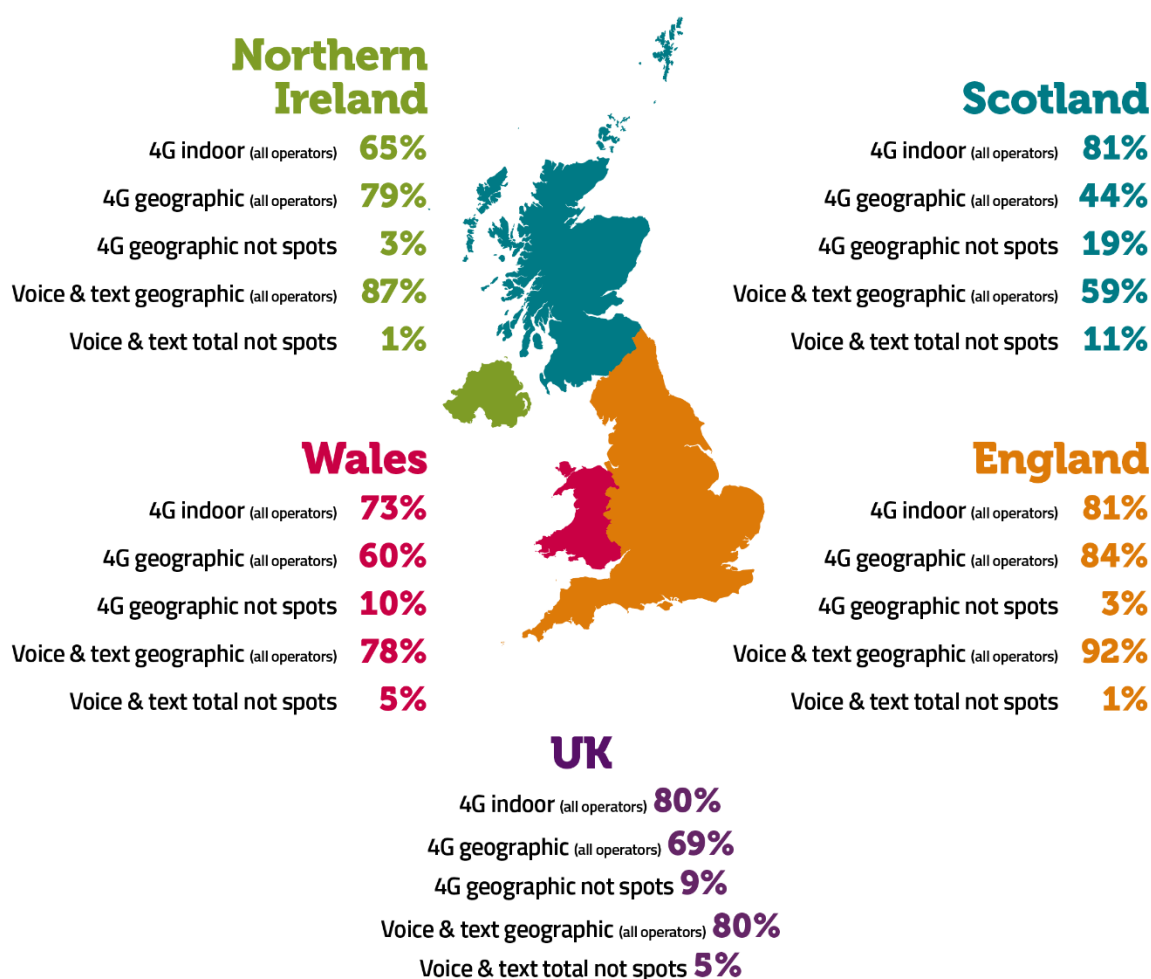
#### Coverage in premises:

- 65% of premises in Northern Ireland have good 4G coverage from all four operators (indoor).
- Voice services from all four operators are available in 81% of premises in Northern Ireland (indoor).

#### Coverage on roads:

- 58% of Northern Ireland's major roads have good in-vehicle 4G coverage.
- Voice services are available on around three quarters of Northern Ireland's major roads (74%).

## Summary of mobile coverage across the UK and Nations



## Geographic coverage

### Voice services are available to nearly 90% of Northern Ireland landmass from all operators

Eighty-seven per cent of Northern Ireland's geographic area is covered by all four operators for voice calls.<sup>9</sup>

Outdoor access to good data services through 4G covers 79% of the Northern Ireland landmass.

However, there are differences in the level of choice available to customers in urban and rural areas. Ninety-two per cent of urban areas can get 4G coverage from all four operators, compared to 78% of rural areas.

Mobile voice coverage from all four operators extend to

**87%** of Northern Ireland

4G mobile coverage extends to **79%** of Northern Ireland

.... No Service

Geographic not spots in Northern Ireland:  
Voice **1%**      4G **3%**

<sup>9</sup> These figures include voice calls over 4G LTE services.

Figure 9: Geographic mobile coverage in Northern Ireland

|              | % of landmass covered by all operators | pp change (since 2019) | No coverage from any operator |
|--------------|--|------------------------|-------------------------------|
| <b>4G</b>    | 79%                                    | +4%                    | 3%                            |
| <b>Voice</b> | 87%                                    | +1%                    | 1%                            |

Source: Ofcom analysis of operator data

## Indoor coverage

### Eight in ten premises have indoor coverage from all operators

The coverage people receive indoors depends on a range of factors including: the thickness of walls, building materials used in construction and where in the building they are. Due to these factors, in some premises there may be differences between our predicted indoor coverage data and the actual coverage available.

Our online coverage checker provides additional information on the likelihood of there being indoor coverage in buildings in different locations, which takes into account some of the factors that can affect a mobile signal.

Based on an average building loss model (i.e. the model we use to estimate the amount of signal loss from outside to inside the building), voice calls on mobiles are predicted to be available from all operators in 81% of premises across Northern Ireland<sup>10</sup> while Sixty-five per cent of homes and businesses are covered by a 4G signal from all operators.

Figure 10: Indoor coverage, premises covered in Northern Ireland

|              | % of premises with indoor coverage from all operators | pp change (since 2019) | No coverage from any operator |
|--------------|---|------------------------|-------------------------------|
| <b>4G</b>    | 65%   | +4%                    | 2%                            |
| <b>Voice</b> | 81%   | +1%                    | 1%                            |

Source: Ofcom analysis of operator data

## Roads coverage

Some 74% of motorway and A roads in Northern Ireland have voice coverage from all four operators. Fifty-eight per cent of motorways and A roads have good in-car 4G coverage from all operators.

Figure 11: Major roads mobile coverage in Northern Ireland

|              | % of major roads covered by all operators | pp change (since 2019) | No coverage from any operator |
|--------------|---|------------------------|-------------------------------|
| <b>4G</b>    | 58%                                       | +6%                    | 2%                            |
| <b>Voice</b> | 74%                                       | +2%                    | 1%                            |

<sup>10</sup> We determine indoor coverage by applying an average building entry loss of 10dB across all buildings.

Source: Ofcom analysis of operator data

## Differences across the Nations

Although the overall coverage of 4G data services across the UK geographic area increased slightly in the last year, there are still significant differences across the nations. Mobile data coverage remains significantly better in England and Northern Ireland than it is in Scotland and Wales. Furthermore, 4G data coverage varies considerably among mobile operators and remains poor in many places.

Today, 79% of geographic areas in Northern Ireland and 84% in England can receive 4G data services from all operators. This compares with only 60% of Wales and 44% of Scotland.

Figure 12: 4G geographic coverage in the nations

|                  | % of landmass served by all operators (2019) | % of landmass served by all operators (2020) |
|------------------|--|--|
| Wales            | 58%  | 60%  |
| Scotland         | 42%  | 44%  |
| Northern Ireland | 75%  | 79%  |
| England          | 81%  | 84%  |
| UK               | 66%  | 69%  |

Source: Ofcom analysis of operator data

With the exception of Scotland where 4G data coverage from at least one operator increased by one percentage point, coverage in the other nations remained unchanged. Today, these services are available from at least one operator in 89% of geographic areas in Wales, 81% in Scotland, and 97% in both Northern Ireland and England.

## Mobile coverage in Northern Ireland by operator

Below, we compare coverage of voice and 4G services in Northern Ireland from the four main operators – O2, Vodafone, EE and Three. In recent years, there has been increased consolidation and sharing of masts between O2 and Vodafone, and between EE and Three, which has seen coverage between sharing network providers converge.

There are also more than 30 virtual network operators. These operators, such as Sky, Virgin Mobile, iD Mobile, Tesco Mobile, giffgaff and others, are each carried on one of the main networks and will have similar coverage to its host network.



Figure 13: Mobile coverage by operator

|                         | O2  | Vodafone | EE  | Three |
|-------------------------|-----|----------|-----|-------|
| Indoor premises - 4G    | 91% | 92%      | 76% | 83%   |
| Indoor premises – voice | 98% | 98%      | 85% | 91%   |
| Geographic – 4G         | 88% | 91%      | 86% | 92%   |
| Geographic – voice      | 97% | 97%      | 88% | 94%   |

Source: Ofcom analysis of operator data

## Progress with 5G continues despite the pandemic

Since the initial roll out of 5G networks last year, UK MNOs have continued to deploy 5G, largely on existing mobile infrastructure. The main focus of this activity has remained predominantly in urban areas where such deployments provide additional capacity in areas of high demand, although wider deployments have taken place.

This is in line with our expectations, with current 5G deployments for consumers largely focusing on delivering mobile broadband, particularly in areas of existing high demand.

Take-up remains a relatively small proportion of overall users, with about 800,000 active 5G devices across all mobile operator networks in the UK (as of early September 2020). This represents just over 1% of all active devices. As new services emerge, and more 5G handsets become available, take-up is likely to increase.

Across the UK, 5G is now carried on around 3,000 mobile base stations (around a ten-fold increase in base stations reported to us last year), with 87% of these base stations in England, 7% in Scotland and 3% in both Wales and Northern Ireland.

We have found that the majority of current 5G deployments are in already busy areas (for example, more than half of the 5G sites in Northern Ireland are in Belfast) and are providing capacity enhancements to other mobile generations i.e. 4G.

## Initiatives to improve mobile communications

### The Shared Rural Network

Ofcom is committed to reporting on progress made by the operators towards the legally binding commitments they have entered into as part of the Shared Rural Network (SRN)<sup>11</sup>. Under the agreement, each individual MNO is committed to reaching 88% 4G coverage of UK landmass by 2024, and 90% of landmass within 6 years from 2020 (subject to certain conditions), with an expectation that this will see the ‘at least one operator’ footprint (i.e. the area where there is mobile coverage available, but not always from the same MNO) reach 95% of UK landmass by 2025.

For Northern Ireland it means 4G mobile coverage will, by 2026, reach 98% from at least one operator, and 85% from all four operators.

<sup>11</sup> <https://www.gov.uk/government/news/shared-rural-network>

MNOs have now moved into the detailed planning phase and we expect to report on more significant progress as the programme moves into the delivery phase in the year ahead.

We note that other public policy initiatives such as the Mobile Action Plan for Northern Ireland and changes to permitted development rights for extending telephone masts (see below) will support these plans to improve rural mobile coverage.

### **Mobile Action Plan for Northern Ireland**

The Department for the Economy is developing a Mobile Action Plan (MAP) to ensure the benefits of the mobile coverage are maximised for Northern Ireland.

While industry has signed up to the improved coverage commitments as part of the SRN, mobile operators have highlighted that there are a number of policy changes that could help deliver these commitments more quickly.

A cross sector working group is being convened that will feed into the plan. It will help identify the main issues that impact the rollout of mobile technologies, looking at areas such as planning, rates relief, and access to public sector assets including land and buildings.

The MAP will be the first stage in the development of a Digital Infrastructure Action Plan/Strategy pledged in the draft Industrial Strategy for Northern Ireland and outlined in the Department for the Economy's *Covid-19 Response Business Plan 2020-2021*<sup>12</sup>.

The Department set a target date of March 2021 for the development of the MAP. However, this will be kept under review due to the continuing focus and pressures around Covid-19 and EU Exit. The plan will be presented to the Northern Ireland Executive for endorsement in due course.

### **Changes to make mobile mast upgrades and extensions easier**

The Department for Infrastructure is to amend permitted development rights to make the upgrade and extension of mobile phone masts in Northern Ireland easier<sup>13</sup>.

Permitted development rights allow for the extension of current telecoms mast infrastructure without the need to apply for planning permission. Presently, the system of permitted development rights for network operators in Northern Ireland is the most restrictive in the UK.

The changes, which are due to come into effect in December 2020, will allow masts to be made taller and wider, beyond present limits, without the need to apply for planning permission, which mobile operators have argued can impede investment and related service and coverage improvements. Higher masts allow additional apparatus, including more and larger antennas to be deployed on existing infrastructure, making upgrades simpler and encouraging the sharing of masts between operators.

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<sup>12</sup> <https://www.economy-ni.gov.uk/sites/default/files/publications/economy/DfE-Covid-19-response-business-plan-2020-21.pdf>

<sup>13</sup> <https://www.infrastructure-ni.gov.uk/news/business-and-environment-benefit-new-permitted-development-proposals-permitted-development-rights>

At present in Northern Ireland the installation of a new mast requires planning approval and this will continue to be the case.

## **Mobile networks coped with increased traffic demand and changes in consumption patterns during Covid-19**

### **Data usage during Covid-19**

Mobile operators in the UK successfully coped with the increased demands and changes in data and voice traffic as people began working from home and schools were shut during the Covid-19 spring lockdown. The operators reported that peaks occurred just before or during the week lockdown measures were first introduced across the UK in March 2020. Although these peaks generally reduced with the gradual easing of lockdown, they have remained higher than periods before (in line with the historical trend for incremental growth in data consumption).

### **Mobile hotspots shifted from urban areas to suburban areas during lockdown**

Mobile traffic patterns (voice and data) shifted from the urban areas to more residential areas during the period, particularly as people began working from home. Further detail and analysis of mobile network usage patterns can be found in the main [UK Connected Nations 2021 report](#).