Connected Nations

England Report 2024

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Section

1. Overview

Ofcom's objective is to make communications work for everyone, including to promote reliable, widely available and high-quality networks. In this annual Connected Nations report for England, we measure progress on the availability of broadband and mobile services across England and the UK. This includes providing updates on the rollout of the full fibre, fixed wireless access and 5G mobile networks.

Alongside this England report, we are also publishing separate reports on broadband and mobile availability for the UK as a whole and each of its other nations. Our interactive dashboard allows people to easily access the latest data for different areas of England and the UK and in relation to specific services.

What we have found

Broadband

- **Over two-thirds of households in England now have access to full-fibre networks.** 17.3 million residential premises (69%) have access to full fibre as of July 2024, an increase of 13 percentage points from September 2023. Gigabit-capable coverage now extends to 84% or 21.1 million premises in England.
- **Take-up of services on fixed networks has increased across England.** Where full fibre is available, 33% of premises have taken up services on these networks which represents an increase of 6 percentage points from last year. As of July 2024, there are 6 million full-fibre connections.
- **Satellite broadband connections in England have doubled.** The number of customer connections in England has increased from around 34,000 to 70,000 from last year.
- **The number of premises - residential and commercial - in England without access to decent broadband from a fixed line is 275,000.** Taking account of access to Fixed Wireless Access (FWA) services, and plans to expand coverage with public funding over the next year, we estimate that around 30,000 premises are potentially eligible for the broadband service under the universal service obligation (USO).[1]

Mobile

- **5G coverage is steadily increasing across England.** 92-96% of premises (across a range covering Very High and High Confidence levels) can now receive 5G outdoor coverage from at least one MNO.[2] England remains the UK nation with the highest 5G coverage from at least one MNO.
- **4G coverage continues to be extensive across England**. Coverage for data services from at least one MNO now reaches 99% of England's landmass. Increases in 4G coverage in England are taking place against the background of efforts to improve coverage across rural areas of the UK, as part of the Shared Rural Network (SRN) Programme.

[1] FWA services can be delivered by MNOs or Wireless Internet Service Providers. See page 17 of the UK report.
[2] Further information on this measure can be found in the 'Background to mobile technologies' box on page 13 of this report.

2. Fixed broadband and voice services

Introduction

Full-fibre fixed networks are continuing to expand across England, delivering faster and more reliable broadband and voice services to homes and businesses. In this section, we provide an update on the rollout and consumer take-up of services on these networks over the past year. We also provide updates on the deployment of fixed wireless and satellite networks that are delivering alternative forms of broadband connectivity, as well as providing the latest data on the small remaining numbers of premises that still do not have access to decent broadband.

Growing connectivity across England and the rest of the UK is taking place in the context of broader changes to the fixed telecoms sector, including the migration to digital voice technology from the legacy public switched telephone network (PSTN). For more information on these developments, please refer to our Connected Nations 2024 report for the UK.

Fixed broadband coverage

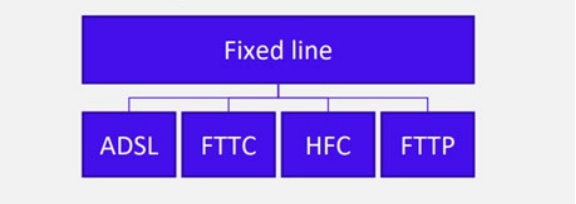
Fixed broadband is available at a variety of speeds and is delivered over different technologies, including Asymmetric Digital Subscriber Line (ADSL), fibre to the cabinet (FTTC), hybrid fibre coaxial (HFC) cable, and full fibre which is also known as 'fibre to the premises' (FTTP). A detailed explanation of these technologies and the speeds they can deliver can be found in our Connected Nations UK report.

Figure 2.1. Summary of broadband coverage at a fixed location across the UK and nations

	Gigabit-capable (residential)	Full fibre (residential)	Superfast (residential)	Unable to get decent (all properties)
UK	83%	69%	98%	0.2%
Scotland	77%	62%	96%	0.5%
Northern Ireland	94%	93%	98%	0.2%
Wales	74%	68%	96%	0.5%
England	84%	69%	98%	0.1%

Source: Ofcom analysis of provider data (July 2024)

Background: fixed line broadband services



Fixed connections provide broadband access at specific locations, such as residential or business premises. Fixed line broadband technologies can be broken down into different technology types.

There are **four** primary types of fixed line connections for fixed broadband access:

- **Asymmetric Digital Subscriber Line** (**ADSL)** – Copper (telephone) cables are used to connect the exchange to each premises. Maximum download speed is up to 24 Mbit/s. Actual speeds delivered diminish with length of cable from exchange to the premises.
- **Fibre to the cabinet (FTTC)** – FTTC involves fibre to the street cabinet, with copper cables connecting the cabinet to the premises. FTTC uses 'very high-speed digital subscriber line' (VDSL) technology.[3] As with ADSL, speeds diminish with length of cable, but as cabinets are generally located close to premises, maximum download speed is normally up to 80 Mbit/s.
- **Hybrid fibre coaxial (HFC) cable** – With HFC, there is fibre to a street cabinet and coaxial cable from the cabinet to the premises. Because coaxial has less signal loss than telephone copper wires, HFC can deliver higher speeds over longer distances. Cable broadband in the UK is provided by Virgin Media O2, and its cable network can deliver gigabit speeds.[4]
- **Full fibre or 'fibre to the premises' (FTTP)** – The connection from the telephone exchange to the premises is provided entirely over fibre. Generally, distance to the premises does not affect the speed delivered. Full fibre can deliver gigabit speeds.[5]

We categorise fixed broadband connections based on the download speed they can provide:

- **Decent** – can provide at least 10 Mbit/s download and 1 Mbit/s upload speeds.[6] It can be delivered by ADSL, FTTC, HFC cable or full fibre. Decent broadband provides sufficient speeds for making a high-definition video call. Over minimum decent broadband, downloading a one-hour HD TV episode (1 GB) would take almost 15 minutes.
- **Superfast** – can provide download speeds of at least 30 Mbit/s and can be delivered by FTTC, HFC cable or full fibre. Superfast broadband provides sufficient speed for one-person streaming 4K/UHD video. Downloading a one-hour HD TV episode would take under four and a half minutes and several devices can work simultaneously.
- **Gigabit-capable** – can offer download speeds of 1 Gbit/s and above. It can be delivered by HFC cable or full fibre. With gigabit-capable broadband, it is feasible to download a full 4K film (100 GB) in under 15 mins, or a one-hour HD TV episode in eight seconds.

[3] Another technology known as G.fast is also sometimes deployed at, or near, a limited number of cabinets offering higher speeds than VDSL.
[4] Cable broadband HFC access networks are shared between a large number (usually hundreds) of premises.
[5] Most full-fibre access networks utilise Passive Optical Network (PON) approaches where capacity in the downstream and upstream direction is shared between around 30 to 60 users.
[6] The UK Government defines the characteristics of 'decent broadband'. This is the level of connection currently deemed necessary for consumers to participate in a digital society.

Full-fibre coverage is available to over two-thirds of residential premises in England

17.3 million premises in England have access to full-fibre coverage in July 2024, representing 69% of all residential premises across England. England saw a significant expansion in the availability of full fibre networks this year, with coverage increasing by 13 percentage points from last year (September 2023).

Full-fibre coverage continues to vary between urban and rural areas, with 71% of urban residential premises having access to full fibre, compared to 52% of rural residential premises.

Levels of full-fibre coverage also significantly vary across England's 317 local authorities. Kingston upon Hull has the highest level at 99%, whereas the Isles of Scilly have the lowest at 6%.

Table 2.1: Highest and lowest levels of residential full fibre network coverage by selected English local authority

Rank	English Local Authority	% of premises with full fibre coverage
1	Kingston upon Hull, City of	99%
2	Southend-On-Sea	96%
3	Coventry	96%
315	Telford and Wrekin	19%
316	Harlow	14%
317	Isles of Scilly	6%

Gigabit-capable coverage has reached 84% of residential premises in England

This year England saw another significant increase in its gigabit-capable coverage, from 19.6 million premises in September 2023 to 21.1 million residential premises in July 2024. Gigabit-capable broadband connections are able to offer download speeds of 1 Gbit/s and above, and can be delivered by HFC cable or full-fibre networks.

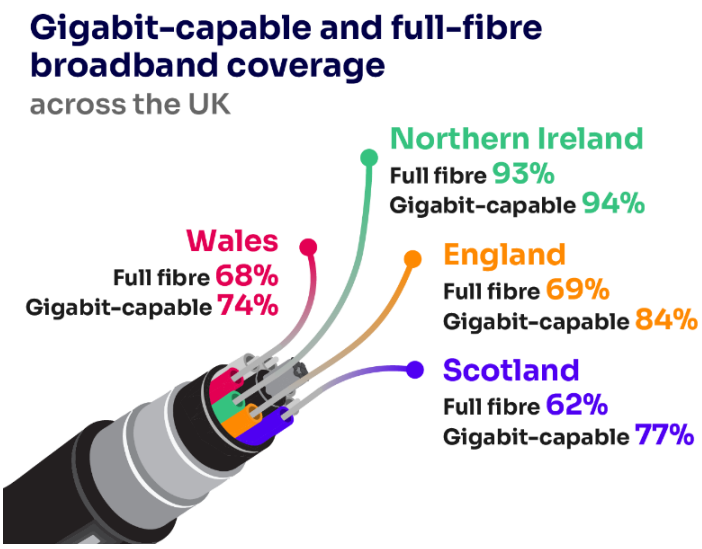


Table 2.2: Residential gigabit-capable and full-fibre coverage by nation

Nation	Gigabit capable	Full fibre
England	84% (21.1m)	69% (17.3m)
Scotland	77% (2.1m)	62% (1.7m)
Northern Ireland	94% (0.8m)	93% (0.8m)
Wales	74% (1.1m)	68% (1.0m)
UK	83% (25.0m)	69% (20.7m)

Source: Ofcom analysis of provider data (July 2024)

Gigabit-capable broadband is available to 88% of urban premises in England, compared to 54% of rural premises.

Table 2.3: Residential gigabit-capable and full-fibre coverage in England by rurality

	Gigabit capable	Full fibre
Urban	88% (19.4m)	71% (15.6m)
Rural	54% (1.7m)	52% (1.7m)
Total	84% (21.1m)	69% (17.3m)

Source: Ofcom analysis of provider data (July 2024)

Almost all premises in England have access to a superfast broadband connection

Superfast broadband describes any service that can provide a download speed of 30 Mbit/s or more, and can be delivered by FTTC, HFC cable or full fibre. Superfast coverage remains very high in England and is accessible to 98% of all residential premises in July 2024, including 99% of urban premises and 90% of rural premises (up one percentage point from September 2023). Around 100,000 additional premises in rural areas have superfast broadband coverage, though this will

include some new build properties, in addition to some existing residential premises that have gained access to superfast broadband coverage for the first time.

Table 2.4: Residential superfast coverage

Nation	Total	Urban	Rural
England	98%	99%	90%
Scotland	96%	99%	83%
Northern Ireland	98%	99%+	95%
Wales	96%	99%	87%
UK	98%	99%	99%

Source: Ofcom analysis of operator data (July 2024)

More small and medium-sized enterprises now have access to full-fibre networks

63% of small and medium-sized enterprises (SMEs) in England are able to access full fibre coverage, which is a 12 percentage point increase from last year. There is still a gap in coverage between urban and rural areas, with full-fibre networks available to 64% of SMEs in urban areas in comparison to 51% of SMEs in rural areas.

Gigabit-capable coverage for SMEs in England has also risen to cover 80% of premises. The gap between urban and rural areas is more significant for gigabit-capable coverage than full-fibre coverage (84% of SMEs in urban areas have gigabit-capable coverage compared to 53% of SMEs in rural areas).

Broadband services using fixed wireless networks are increasingly available across England

Broadband may be delivered to some premises over a wireless network (known as Fixed Wireless Access, or FWA), using either the mobile network or a Wireless Internet Service Provider (WISP). This can be an effective alternative in areas where a decent broadband service provided via a fixed line connection is not available.[7]

The data we collected from Mobile Network Operators (MNOs) indicate that 96% of premises in England have access to an MNO FWA service, and 6% have access to a WISP network.

[7] For a definition of decent broadband, please refer to our '*Background: fixed line broadband services*' section on page 5.

Table 2.5: Coverage of MNO and WISP FWA networks with at least decent broadband

Nation	MNO FWA	WISP FWA
England	96% (25.6m)	6% (1.7m)
Scotland	95% (2.7m)	2% (0.06m)
Northern Ireland	84% (0.7m)	3% (0.03m)
Wales	93% (1.5m)	22% (0.4m)
UK	**95% (30.6m)**	**7% (2.1m)**

Source: Ofcom analysis of provider data (July 2024).

Take-up of satellite services is increasing across England

Take-up of satellite broadband services is increasing rapidly across the UK. Whilst take up of these services remains significantly lower than traditional broadband services, due to the retail market being at an early stage of development, the evolution of satellite broadband services is helping to provide broadband coverage to harder-to-reach areas, including rural areas of England.

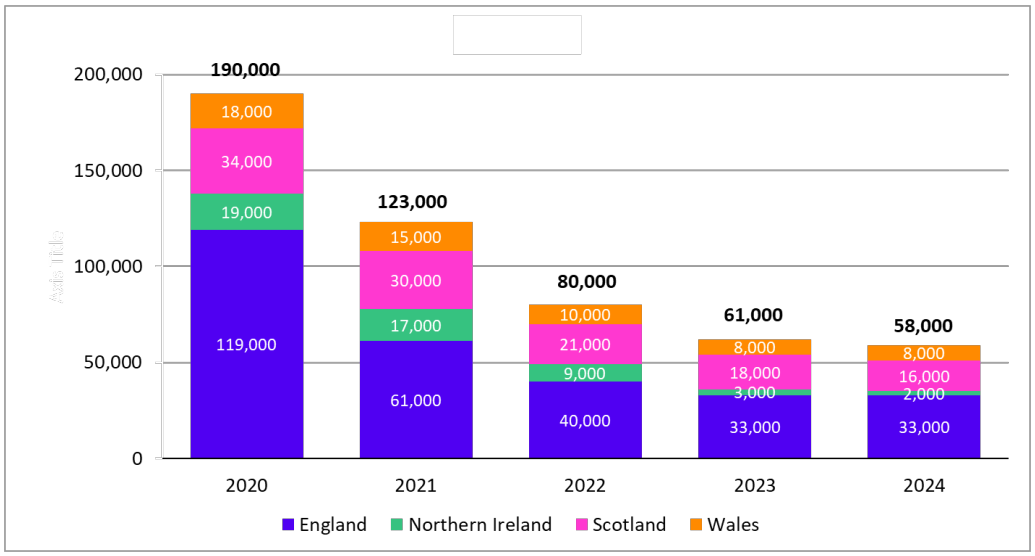
Starlink currently offers the only direct-to-consumer Lower Earth Orbit (LEO) service in the UK through its retail product. The data provided to us by Starlink shows that the number of customer connections in England has roughly doubled between August 2023 and June 2024, from around 34,000 to 70,000.

A small number of premises in England cannot access decent broadband

We estimate that 275,000 of all premises, residential and commercial, in England do not have access to a decent broadband service via a fixed line network. This figure currently represents 1% of all premises across England.

Of those premises, a large proportion is able to access decent broadband via FWA services. Taking into account the coverage available from FWA, we estimate that this leaves around 33,000 or 0.1% of premises in England without access to decent broadband from a fixed line or FWA service.

Figure 2.1: Approximate number of premises without access to a decent broadband service from either a fixed or Fixed Wireless Access network, 2020-2024[8]



Source: Ofcom analysis of provider data (July 2024)

We estimate that this number could drop to 30,000 premises in 2025 as a result of plans to expand coverage with public funding over the next year, with the remaining premises potentially eligible for the broadband service under the universal service obligation (USO).

The broadband universal service obligation (USO)

The broadband USO provides all premises with the right to request a broadband connection with a download speed of at least 10 Mbit/s and an upload speed of 1 Mbit/s (as well as several other specific technical characteristics).[9]

Where an affordable service with these characteristics is not available, or due to become available in the next 12 months under a publicly funded scheme, the customer is eligible for the USO if the costs of providing the connection are below £3,400.[10] Where the costs are above £3,400, the customer has the option to pay the excess costs to get a USO connection. BT is the universal service provider for the UK (excluding Hull), and KCOM for the Hull area. They are required to provide the USO and to report at six monthly intervals on delivery.[11]

As of September 2024, BT received 1,558 orders in England, compared to just over 2,000 orders across the UK. This will provide access to decent broadband to an extra 7,478 premises in England.

To ensure the broadband USO remains relevant, a review provision was included in the legislation and the process to review is likely to be triggered when superfast broadband is taken up by at least 75% of all premises.[12] As of July 2024, 75% of all UK premises have taken up superfast broadband.

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[8] All figures have been rounded to the nearest 1,000.

[9] In particular, these characteristics are: (i) a contention ratio of no more than 50:1; (ii) latency which is capable of allowing the end user to make and receive voice calls effectively; and (iii) the capability to allow data usage of at least 100 GB a month.

[10] In March 2020, we specified in the USO conditions that an affordable service was one that costs £45 per month, rising annually by CPI. This has now risen to £56.20 per month in line with CPI.

[11] BT, USO Reports. KCOM, USO Reports. To date KCOM has not received any eligible USO orders.

[12] Under the Communications Act 2003, the Secretary of State is likely to issue Ofcom with a direction to review the broadband USO if it appears to them that, on the basis of information we have published, take-up of superfast broadband has reached at least 75% of all UK premises.

In October 2023, the Government consulted on a review of the broadband USO and we will continue to engage with Government on the future approach to the USO.

Private and public sector investment

In September 2024, Ofcom published an update on Planned Network Deployments for Very High Capacity networks in the UK for the next three years.

Governments across the UK continue to supplement commercial rollout. In the recent Budget, the Government said the wider Project Gigabit plan will make £800 million available to deliver gigabit connections across Great Britain, and it added that it was on track to achieve full gigabit coverage by 2030.[13]

Consumer take-up of fixed broadband connections

Take-up of fixed services continues to grow in England as coverage expands

An increasing number of people across England are now able to take up services on full-fibre networks as coverage expands. As of July 2024, there are around 6 million connections to services on full-fibre networks in England, up sharply from 3.5 million in May 2023. Where full fibre is available, 33% of premises have taken up services on these networks, which is an increase of 6 percentage points from last year.

Urban areas have a total of 5.1 million full-fibre connections, an increase of 8 percentage points in take-up where full fibre is available. In rural areas, there has also been an increase to 900,000 full-fibre connections, but with take-up remaining at 50% (the same level as last year). This figure remains significantly higher than the take-up rate of 32% in urban areas.

The migration of the UK's telephony network to digital voice services continues

The UK's traditional landline voice services are undergoing a substantial transition as network operators retire their legacy systems (referred to as the Public Switched Telephone Network, or 'PSTN') and replace them with modern systems.

BT and Openreach are now looking to retire BT's PSTN network and the Openreach wholesale services that deliver PSTN by January 2027 and we understand that other providers are following a broadly similar timescale.

To make sure landline services continue to be available to their customers, providers of legacy telephony networks have started delivering landline calls over a broadband connection, using a digital technology called Voice over Internet Protocol (VoIP). This is commonly known as a digital landline. BT has also developed an interim solution, called "pre-digital phone line", for certain complex or difficult to migrate customers such as landline-only or critical national infrastructure

[13] HM Treasury, Autumn Budget 2024, 30 October 2024.

customers. This will allow those customers to move off the PSTN without the need to install a broadband connection or change legacy equipment.[14]

We continue to monitor the migration closely and engage with providers to ensure that disruption is minimised and vulnerable customers are protected from harm.[15]

For more information on this, please refer to our Connected Nations 2024 report for the UK as a whole.

[14] BT, *BT Group refines its digital switchover programme for the UK's full fibre future, 20* May 2024.
[15] Ofcom, *Protecting customers during the migration to digital landlines,* 18 December 2023.

3. Mobile services

Introduction

Mobile coverage is continuing to expand across the UK, ensuring that more people can access the benefits of reliable mobile services.

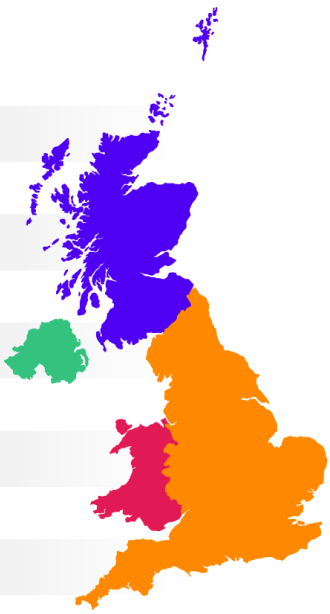
In this section, we provide an update on the progress mobile network operators (MNOs) are making with their 5G rollout plans. We also report on the availability of 4G mobile coverage across England which continues to underpin the mobile experience for consumers – both outside and inside premises and across its landmass.

We recommend that this section is read in conjunction with the Mobile, data and voice section in the UK Connected Nations 2024 report.

Summary of mobile coverage

Figure 3.1: Overview of voice and data coverage across the UK

	5G outside premises (MNO range)	4G outside premises (MNO range)	4G geographic (MNO range)	4G total not spots	Voice and text total not spots
UK	61-79%	99-99+%	88-89%	5%	3%
Scotland	54-76%	99-99+%	77-80%	11%	7%
Northern Ireland	36-90%	98-99%	89-95%	2%	<1%
Wales	16-80%	98-99%	83-89%	5%	3%
England	65-81%	99-99+%	94-96%	1%	1%



Source: Ofcom analysis of operator data (September 2024)

Background to mobile technologies

Mobile services described in this section include:

- **5G, the current generation of wireless technology.** It is faster than previous generations of wireless technology, offers greater capacity, allowing thousands of devices in a small area to be connected at the same time. It is also more responsive by reducing latency which is the time between instructing a wireless device to perform an action and that action being completed.

  • **5G non-standalone (5G NSA)** involves deploying 5G radio equipment alongside existing 4G and is supported by the 4G core network. This delivers an increase in capacity and allows MNOs to support demand as it continues to grow, without the congestion and degradation of service quality that would otherwise result.

  • **5G standalone (5G SA)** involves the deployment of a new 5G core network. This could enable new use cases such as Augmented Reality (AR) /Virtual Reality (VR) and robotics, supported by the broader capabilities of 5G including ultra-low latency, advanced virtual network (slicing) functions, and potentially improved coverage. 5G SA referred to in this chapter is specifically in relation to mobile standalone deployment.

When reporting on mobile 5G availability predictions, we refer to confidence ranges[3] reflecting the likelihood of on the ground coverage for consumers as:

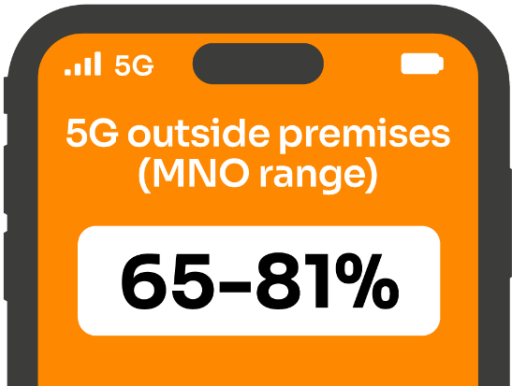
• **High Confidence** associated with a signal strength (-110 dBm), to equate to at least an 80% confidence level.

• **Very High Confidence** associated with a higher signal strength (-100 dBm), to equate to a circa 95% confidence level.

4G, 3G and 2G are other generations of mobile standards with specified features. The introduction of 3G supported the use of data applications such as web browsing, while 4G has supported more data intensive activities such as streaming and gaming.

Outdoor premises coverage of 5G in England

Outdoor premises coverage refers to the predicted availability of mobile coverage in the vicinity of premises. The percentage of premises in England that can now receive 5G outdoor coverage from at least one MNO ranges from 92% at the Very High Confidence level to 96% at the High Confidence level.[16] This represents an increase of 5 and 2 percentage points respectively. England



[16] 5G coverage figures reported in this chapter are slightly lower than the actual 5G coverage due to data inconsistencies affecting 5G standalone reported by one of the MNOs during the later stages of our publication process. We are looking into the effect of this at both the UK and nations level to determine if an update is needed.

remains the UK nation with the highest 5G outdoor coverage from at least one MNO, with coverage on a UK wide-basis ranging from 90% at the Very High Confidence level to 95% at the High Confidence level.

The range of 5G coverage outside of premises from individual MNOs – from the MNO with the least coverage to the MNO with the most – is 65% to 81% for England (at the High Confidence level).

The extent of outdoor 5G coverage provided by all four MNOs remains quite low, covering 40% of premises at the High Confidence level to 20% of premises at the Very High Confidence level, up 13 and 3 percentage points respectively from last year. This broadly mirrors UK-wide levels of outdoor 5G coverage from all MNOs, which is now at 38% of premises at the High Confidence level and 19% of premises at the Very High Confidence level.

BT/EE leads the four MNOs in 5G coverage at the Very High Confidence level, providing coverage to 78% of outdoor premises in England. BT/EE also leads in 5G coverage at the High Confidence level, with coverage extending to 81% of outdoor premises in England.

Outdoor premises coverage of 4G in England

Most people are still using voice and data services on 4G networks. England has retained very high levels of 4G coverage outside premises. 99%+ of premises are predicted to have outdoor 4G coverage from at least one MNO, with 99% of premises being covered by all MNOs. Outdoor voice coverage also remains very high across premises in England, at 99% for all MNOs.

However, differences in coverage continue to exist between urban and rural areas, with nearly all urban premises accessing outdoor 4G coverage from all MNOs compared to 94% of rural premises. The gap between rural and urban England has narrowed by 3 percentage points over the last year.

Table 3.2: Outdoor 4G coverage from all four MNOs, urban/rural breakdown

	2023	2024
England	99%	99%
Urban	99%+	99%+
Rural	91%	94%
United Kingdom	98%	99%
Urban	99%+	99%+
Rural	89%	93%

Source: Ofcom analysis of MNO predictions (September 2024).

Indoor premises coverage of 4G in England

This sub-section considers indoor 4G coverage, which refers to the predicted availability of mobile coverage inside a building. Several factors can affect the coverage people receive indoors. These include the thickness of the walls, the building materials used in construction, and where in a

building people are using their phone.[17] As a result, some premises may see differences between the operators' predicted indoor coverage data and the actual coverage experience.[18]

In England, 4G coverage in indoor premises ranges across the four MNOs between 94% to 97%, with almost all premises able to access 4G coverage from at least one MNO.

Indoor coverage continues to vary between urban and rural areas. Indoor coverage in rural England ranges between 85% to 76% by operator, compared to 99% to 97% of urban areas in England. 97% of premises in rural areas can access indoor coverage from at least one MNO, with 56% being able to receive coverage from all four MNOs, representing an increase of 1 and 6 percentage points respectively.

Indoor voice coverage across England has remained high, and is now available from all MNOs at 92% of premises, with individual voice coverage by MNO ranging from 97 to 99%+.

Geographic coverage in England

This sub-section looks at geographic coverage in England where there is a sufficiently strong signal to provide a good 4G (and in some cases 5G) service outside.

5G geographic coverage in England from at least one MNO reaches 62% at the Very High Confidence level and 76% of the High Confidence level, representing an increase of 6 and 2 percentage points respectively.

England saw modest increases in its 4G geographic coverage this year, with MNO coverage ranging from 94-96%, up from 92-95% last year. England continues to have the highest levels of 4G geographic coverage across the UK nations, but coverage has expanded significantly in other areas of the UK, as a result of the Shared Rural Network initiative (see below).

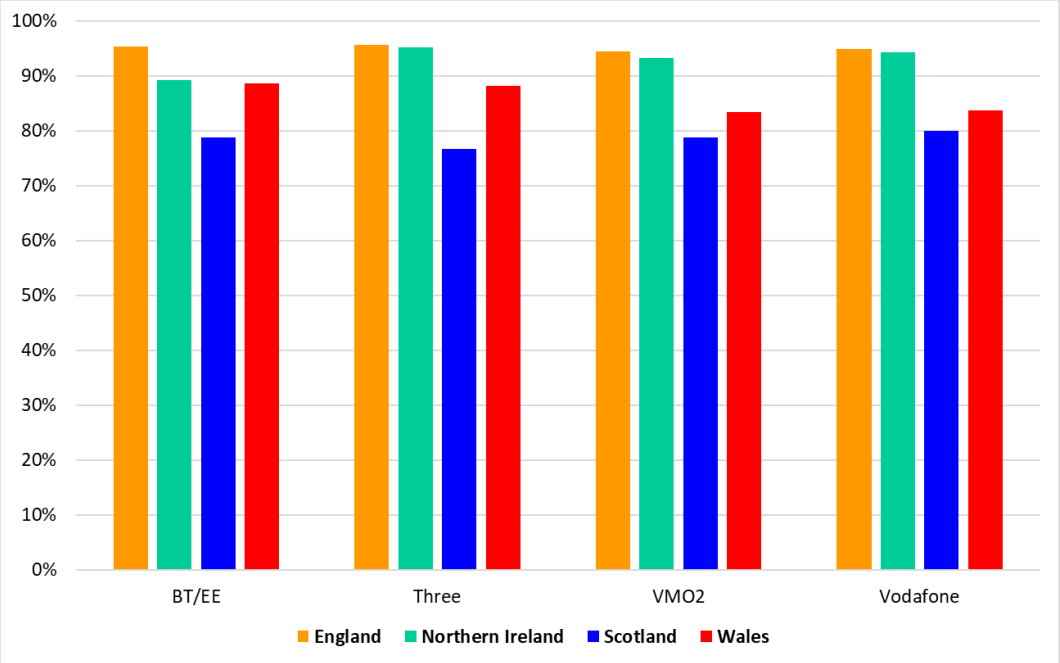
Table 3.3: Yearly increase in 4G geographic coverage, from at least one MNO and from all MNOs

	From at least one MNO		From all MNOs	
	2023	2024	2023	2024
England	98%	99%	85%	90%
Urban	99+%	99+%	98%	99%
Rural	97%	98%	83%	88%
United Kingdom	93%	95%	71%	80%
Urban	99%+	99%+	97%	98%
Rural	92%	95%	68%	78%

Source: Ofcom analysis of MNO predictions (September 2023 and September 2024)

[17] Ofcom's Mobile Coverage Checker provides information on the likelihood of there being indoor coverage in buildings at different locations and explains more about the factors that affect mobile signal indoors.
[18] Ofcom determines indoor coverage by applying an average building entry loss of 10dB across buildings. We acknowledge this approach provides only a simplified view of indoor coverage and that the real experience depends heavily on the types of building material and insulation in a specific building.

Figure 3.2: Differences in 4G geographic coverage in England, Northern Ireland, Scotland and Wales



Source: Ofcom analysis of operator data (September 2024)

Geographic voice coverage by all MNOs in England remains high at 92%, representing the same levels of coverage as reported last year. This coverage varies between urban and rural areas. Geographic voice coverage for urban areas in England stands at 99%, with rural voice coverage at 90%.

Shared Rural Network

On 9 March 2020, the UK Government announced that it had entered into an agreement with the four MNOs to grant funding for a Shared Rural network (SRN).[19] Under the terms of this agreement, each of the four MNOs has committed to provide good quality 4G data and voice coverage to 88% of the country's landmass by 30 June 2024, and 90% by 31 January 2027.[20]

On 12 September 2024, Ofcom published our Coverage Obligations assessment which found that BT/EE, Vodafone and VMO2 had achieved their goal of providing coverage to 88% of the UK's landmass by 30 June 2024. We reported that, as of 30 June 2024, their UK-wide 4G coverage levels were 88.9%, 88.7% and 88.1%, respectively. Obligations were set at both UK and individual nation level and our assessment showed that all four MNOs had met their obligations for England, providing geographic 4G coverage to 94-95% of England's landmass.

[19] The SRN programme is detailed on our Mobile Coverage Obligations website: Mobile coverage obligations - Ofcom

[20] Good quality coverage is defined as the ability to sustain a 90 second voice call and access data speeds of at least 2 Mbps, with a methodology to assess this based on a 4G signal of at least -105 dBm.

Roads coverage

Good mobile coverage across roads in England is important in assisting with vehicle communications, navigation, infotainment, and safety aids.

We expect 4G coverage to be present in vehicles from all MNOs across 84% of major roads in England, with individual coverage by MNO ranging from 92-94%. This represents an increase of 3 percentage points in coverage from all MNOs from last year.

In-vehicle mobile voice services from all MNOs are expected to be available for 88% of major roads in England, falling to 83% when accounting for just A or B roads in England.

Mobile Traffic

Mobile traffic has continued to grow across the UK. Total monthly traffic has risen from 905 PB to 1069 PB, representing an increase of c.18% from last year.[21][22] 4G continues to carry the dominant share (c.78%) of traffic across the UK. Since 2023, total monthly traffic in England has risen by 18%, reflecting the UK average for growth in mobile traffic.[23]

Figure 3.3: Total monthly mobile data traffic growth by UK nations (2021-2024)

Source: Ofcom analysis of operator data (May 2021, May 2022, May 2023, July 2024).

[21] The total traffic reported here is likely to be less than the actual traffic as one of the MNOs has underreported its traffic due to data issues on its performance reporting tool.

[22] The reported total monthly traffic includes all traffic across mobile networks, and therefore includes traffic generated by Fixed Wireless Access, where operators are offering domestic fixed broadband services over their wireless networks. All MNOs, except for one, offer FWA services with varying traffic splits, ranging from approximately 1% to 49%.

[23] The total mobile traffic, represented by the percentages in both rural and urban classifications as well as the nations' split, is slightly less than the total mobile traffic reported by MNOs. This is because not all sites could be spatially mapped onto the UK due to limitations in the ONS 2021 Census National Statistics Postcode Lookup (from August 2023) and Locale classification files, which we used to generate the classifications and geographical boundaries. However, this should not have a significant impact on figures reported as the number of sites affected is minimal.