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Research Briefing

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Access to Telecommunications Networks Bill 2023-24

Summary

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Summary

The Access to Telecommunications Networks Bill is a Private Members' Bill introduced by Helen Morgan MP. It had its first reading on 11 December 2023. Second reading is scheduled for 26 January 2024.

What does the Bill aim to do?

The Bill would require mobile network operators (MNOs) to share their network infrastructure with each other where doing so would ensure "consistent network coverage". It would also "incentivise" MNOs to allow customers to roam onto another MNO's network in areas where their 'home' network does not provide coverage. This is known as 'rural roaming'.

These measures are intended to tackle partial not-spots (areas that receive coverage from at least one MNO but not all four).

What is mobile coverage like in the UK today?

Figures from the telecoms regulator Ofcom indicate that 22% of the UK's geographic area receives coverage from at least one MNO, but not all four. The rate is higher in rural areas, where there is less commercial incentive for building new network infrastructure.

What is the government's approach to improving mobile coverage?

The government's main policy for tackling 4G partial not-spots is the Shared Rural Network (SRN) which was agreed with the industry in March 2020. Under the deal, MNOs have committed to spending £500 million on new shared infrastructure to reduce partial not-spots. The government will spend a further £500 million on new infrastructure in total not-spots (areas where there is no coverage from any MNO).

The SRN aims to increase 4G mobile coverage from all MNOs to 84% of the UK landmass, and coverage from at least one MNO to 95%. As of September 2023, these figures were 71% and 93% respectively.

Has rural roaming been considered in the past?

Rural roaming has been put forward by rural stakeholders as an option for rapidly improving mobile coverage. However, the industry has historically been opposed to the idea, citing technical challenges and concerns about the impact on investment and competition.

Ofcom looked at rural roaming in its 2018 advice to the government on mobile coverage. It said that rural roaming was a "credible" solution. However, Ofcom concluded that because of the need to overcome technical challenges the best way of introducing rural roaming would be with the consent of the industry, which it said was unlikely to be forthcoming.

The government says that it is focused on improving rural mobile coverage through the SRN.

Further reading

More information on the topics covered in this briefing can be found in the Library briefing, Rural mobile coverage in the UK: Not-spots and partial not-spots (January 2024).

1 The Access to Telecommunications Networks Bill

The Access to Telecommunications Networks Bill is a Private Members' Bill introduced by Helen Morgan MP. It had its first reading on 11 December 2023. Second reading is scheduled for 26 January 2024.

The text of the Bill has not yet been published. The Bill's long title explains what it would do:

> A Bill to require providers of electronic communications networks to grant other such providers access to their apparatus where that is necessary to ensure consistent network coverage; to prevent those providers from charging more than the standard market rate for such access; to require the regulator to impose penalties on providers who unreasonably fail to grant such access; to make provision for the purpose of incentivising providers to allow customers of other providers to use their networks where access cannot be granted to their apparatus; and for connected purposes.[1]

In other words, the Bill would:

- Require mobile network operators (MNOs) to share their network infrastructure for a reasonable price. This could involve MNOs allowing other MNOs to place antennae on their mobile masts, for example.
- Incentivise MNOs to allow customers of other MNOs to 'roam' onto their network. This is known as rural roaming and is similar to what currently happens when travelling abroad.

These measures are intended to tackle partial not-spots (areas that receive coverage from at least one MNO but not all four). They would not address total not-spots (areas that do not receive coverage from any MNO).

Further information on the topics covered in this briefing can be found in the Library briefing, Rural mobile coverage in the UK: Not-spots and partial not-spots (January 2024).

[1] Access to Telecommunications Networks Bill, updated 12 December 2023

2 Mobile coverage in the UK

Mobile networks in the UK are primarily built by private companies based on commercial considerations. There are four Mobile Network Operators (MNOs) in the UK: Three, Vodafone, O2 (now a joint venture with Virgin Media), and EE (owned by BT). Other mobile companies, such as Giff Gaff and Tesco Mobile, use the network infrastructure operated by one of the four MNOs to provide mobile services to customers. They are known as Virtual Mobile Network Operators. There are also wholesale infrastructure providers that build infrastructure and lease it to MNOs, but do not provide mobile services themselves.

As shown in the table below, parts of the UK have access to mobile coverage from some MNOs' networks, but not all four. These areas are called 'partial not-spots'. In practice this means that customers who live in partial not-spots have less choice about their mobile services provider. Customers travelling into partial not-spots (such as tourists) may find that they cannot receive a connection.

Mobile coverage in urban and rural areas, 2023
Figures are rounded to the nearest percentage point

	4G data (indoors)		Voice calls (indoors)		4G (geographical area)		Voice calls (geographical area)	
	At least one operator	All operators	At least one operator	All operators	At least one operator	All operators	At least one operator	All operators
England								
Rural	96%	50%	99%	73%	97%	83%	99%	91%
Urban	100%	92%	100%	98%	100%	98%	100%	99%
Scotland								
Rural	97%	57%	98%	75%	84%	47%	90%	60%
Urban	100%	93%	100%	98%	100%	97%	100%	99%
Wales								
Rural	94%	46%	99%	71%	90%	59%	95%	76%
Urban	100%	85%	100%	96%	99%	92%	100%	97%
Northern Ireland								
Rural	94%	46%	97%	64%	97%	80%	99%	87%
Urban	100%	84%	100%	93%	99%	95%	100%	97%

Source: Ofcom, Connected Nations 2023, interactive report, slide 15

The extent of partial not-spots can be calculated by subtracting the "all operators" figure from the "at least one operator" figure. For example, in Scotland, 97% of rural premises have access to 4G coverage from at least one operator, but only 57% have access to coverage from all operators, meaning that 40% have coverage from at least one operator but not from all operators.

Ofcom's figures indicate that in the UK:

- 14% of premises have 4G coverage indoors from at least one operator but not all four;
- 6% of premises have voice call coverage indoors from at least one operator but not all four;
- 22% of the UK's geographical area has 4G coverage outdoors from at least one operator but not all four;
- 15% of the UK's geographical area has voice call coverage outdoors from at least one operator but not all four. [2]

These percentages are higher in rural areas. The table below shows this data for the four UK countries.

Partial not spots in the UK, September 2023
Percentage with mobile coverage from one MNO but not all MNOs

	4G data (indoors)	Voice calls (indoors)	4G (geographical area)	Voice calls (geographical area)
England				
Rural	46%	26%	14%	8%
Urban	8%	2%	2%	1%
Scotland				
Rural	40%	23%	37%	30%
Urban	7%	2%	3%	1%
Wales				
Rural	48%	28%	31%	19%
Urban	15%	4%	7%	3%
Northern Ireland				
Rural	48%	33%	17%	12%
Urban	16%	7%	4%	3%

Source: Commons Library calculations based on Ofcom, Connected Nations 2023, interactive report, slide 15 (figures rounded to nearest percentage point)

[2] September 2023 data from Ofcom, Connected Nations 2023, underlying constituency data files.

3 Government targets and policy

3.1 Targets for mobile coverage

The UK government has targets for 4G and 5G coverage.

For 4G, the target is for 95% of the UK landmass to have a 4G signal from at least one MNO by 2025.[3] This target was announced as part of the Shared Rural Network deal agreed in March 2020 (see section 3.2 below).[4]

For 5G, the 2018 Future Telecoms Infrastructure Strategy had set a target for the majority of the population to be reached by 2027.[5] In May 2022 EE announced that it had achieved that level of coverage.[6] The 2023 Wireless Infrastructure Strategy set a new target of "nationwide coverage of standalone 5G to all populated areas of the UK by 2030".[7] Populated areas includes villages and rural communities.

3.2 Improving coverage in rural areas

Shared Rural Network

The government's main programme for extending rural 4G mobile coverage is the Shared Rural Network (SRN).[8] An agreement between the government and the mobile industry was reached in March 2020.[9] Under the deal, MNOs will invest £500m in building shared infrastructure to close partial not-spots (areas which have mobile coverage from at least one but not all MNOs) and the Government will invest £500m to tackle total not-spots (areas with no coverage).

The SRN's headline target is for 95% of the UK's landmass to have 4G coverage from at least one operator. It is expected to raise geographic

3 DSIT, UK Wireless Infrastructure Strategy, 11 April 2023
4 DCMS, Shared Rural Network, 9 March 2020
5 DCMS, Future Telecoms Infrastructure Review, 23 July 2018
6 ISPreview, EE Become First UK Mobile Operator to Hit 50 Percent 5G Cover, 10 May 2022
7 'Standalone' 5G means a network that only uses dedicated 5G equipment. The majority of 5G deployments in the UK are non-standalone, meaning that they utilise 4G equipment for some network functions.
8 PQ 7150 – Broadband: rural areas, 19 December 2023
9 DCMS, Shared Rural Network, 9 March 2020

coverage from all four MNOs to 84% by 2026. Forecast coverage improvements have been published on the SRN website.

Coverage forecasts for the Shared Rural Network

4G coverage pre and post-SRN (forecast)

	All operators		At least one operator	
	pre-SRN	Post-SRN forecast	Pre-SRN	Post-SRN forecast
UK-wide	69%	84%	91%	95%
England	84%	90%	97%	98%
Scotland	44%	74%	81%	91%
Wales	60%	80%	90%	95%
Northern Ireland	79%	85%	97%	98%

The 'pre-SRN' figures in the table above show coverage as of January 2021.

To reach this level of coverage, MNOs have committed to the following coverage obligations:

- Each MNO will reach 88 per cent coverage of the UK by the end of June 2024;
- Each MNO will reach 90 per cent coverage of the UK by the end of 2026;
- Each MNO will reach nation-specific coverage targets in England, Northern Ireland, Scotland, and Wales by the end of 2026;
- Collectively, MNOs will provide additional coverage to 280,000 premises and 16,000km of roads by 2026.[10]

The SRN is a voluntary scheme but the coverage commitments are legally enforceable by Ofcom.

1 Previous coverage obligations

Coverage obligations are legal requirements on mobile operators to provide a minimum level of mobile coverage across a geographic area or certain number of premises. The government and Ofcom have previously used coverage obligations to require MNOs to deploy networks in rural areas that would otherwise not be a commercial priority.

In 2014, the four UK MNOs signed an agreement with the Government to deliver mobile voice services to 90% of the UK landmass by the end of 2017.[11]

10 DCMS, Shared Rural Network, 9 March 2020. The final commitment is to ensure that enhanced coverage reaches areas where it will have the most impact.

11 DCMS, Government secures landmark deal for UK mobile phone users, 18 December 2014

O2 was under an additional obligation to deliver indoor data coverage to 98% of UK premises. This was a condition of its licence to use the 800Mhz spectrum band.

Ofcom had proposed to impose new coverage obligations as part of its 2021 auction of the 700 Mhz spectrum band. The 700 Mhz band was previously used for digital TV, but Ofcom assigned it for mobile use instead as part of the government's proposals for improving rural mobile coverage. That is because, as low frequency spectrum, it is suitable for travelling long distances. The obligations were dropped following the SRN agreement.

Progress on coverage

EE announced in January 2024 that it had met the interim target of reaching 88% coverage by the end of June 2024.[12]

The other MNOs are further behind: as of September 2023 Vodafone's coverage was at 83.3%, Virgin Media O2's was 81.7%, and Three's was 80.5%. Ofcom said that they "still have substantial progress to make to meet their obligations in the coming months".[13]

According to press reports, in October 2023, Three, Vodafone, and Virgin Media O2 asked the government for a two-year extension to their 2024 targets. [14] Three argued that the SRN was agreed "immediately prior to the Covid lockdowns and has been impacted by delays associated with the pandemic". It maintained that it is still on course to meet its overall target of 90% coverage by the end of 2026.

Planning and land access reforms

The government has introduced regulatory reforms intended to make it cheaper and quicker to build mobile infrastructure. For example:

- New planning rules in force in England from April 2022 allow ground-based mobile masts up to 30 metres in height to be built under permitted development rights.[15] This means that they do not need full planning permission from the local authority.

- Reforms to the Electronic Communications Code (ECC, which governs the rights of telecoms operators to access land) made it cheaper to acquire

12 Telco Titans, EE 'finalises' first phase of Shared Rural Network; rivals play catch up, 16 January 2024
13 Ofcom, Connected Nations 2023: UK report, 19 December 2023, p51
14 ISPreview, Project to Extend UK Rural 4G Mobile Cover Faces 2 Year Delay, 23 October 2023
15 DCMS, New laws to end mobile coverage 'no bar blues', 7 March 2022

sites and granted telecoms operators enhanced rights to upgrade and share infrastructure.[16]

Planning is a devolved matter. The Scottish Government has also increased the maximum height of mobile masts allowed under permitted development.[17] The Welsh Government has not.[18] The ECC applies across the UK.

The Library briefing, Building broadband and mobile infrastructure (December 2022), explains the rules for planning permissions and access rights, and covers recent reforms in more detail.

16 DCMS, Government publishes proposals for a new Electronic Communications Code, 17 May 2016; and DCMS, Consultation on changes to the Electronic Communications Code, 27 January 2021

17 Scottish Government, Planning circular 2/2015: non-domestic permitted development rights, 1 April 2021

18 Welsh Government, Barrier Busting Taskforce: Report, 10 November 2022

4 Infrastructure sharing and roaming

Broadly speaking there are two ways that MNOs could 'share' their networks with other MNOs. The first is to share the infrastructure itself. For example, this may involve building one phone mast and allowing multiple operators to install their own antenna on it. The second is to allow mobile customers to use other networks in areas not covered by their own provider's network. This is known as national or rural roaming.

The wording of the Bill's long title indicates that both physical infrastructure sharing and rural roaming would be in scope.

4.1 Infrastructure sharing

The Access to Telecommunications Networks Bill's long title states that it would:

> ...require providers of electronic communications networks to grant other such providers access to their apparatus where that is necessary to ensure consistent network coverage...[19]

Sharing mobile network infrastructure between MNOs may involve:

- building separate passive infrastructure (such as masts) on a shared site.
- deploying separate active infrastructure (such as antenna) on a shared mast.
- utilising the same passive and active infrastructure.

Commercial agreements

Apart from the SRN, infrastructure sharing is primarily driven by commercial considerations. Building and maintaining network infrastructure is a significant part of MNOs' costs so there is a business incentive to share infrastructure where commercially desirable and technically feasible. The MNOs have set up two network sharing companies in order to rationalize their infrastructure builds, which are each joint ventures between two of them: Cornerstone Telecommunications Infrastructure Ltd (between Vodafone and O2) and Mobile Broadband Network Ltd (between Three and EE).

[19] Access to Telecommunications Networks Bill, updated 12 December 2023

Masts are also built by third parties (such as Cellnex UK and Wireless Infrastructure Group), who may allow multiple MNOs to use them to provide network coverage. It would be for the MNOs to decide whether or not paying to access a given mast made commercial sense.

Ofcom encourages but does not generally require infrastructure sharing. The regulator says MNOs must "illustrate that they are willing to share their apparatus" with others. Disputes between operators are assessed on a case by case basis, and if Ofcom rules that an MNO is unreasonably refusing access "it could exercise its powers to require mast sharing".[20]

In a 2014 consultation on policy options to tackle mobile voice and text partial not-spots, the government considered seeking an agreement with MNOs on a "more ambitious programme" of infrastructure sharing:

> This would take the form of a "must offer/must accept" obligation in which MNOs agree to make available for sharing all possible sites, as well as agreeing to install equipment at all sites where this provides a coverage benefit.[21]

The government decided not to pursue this option. That was in part due to concerns about site-specific practical and technical issues that can complicate infrastructure sharing, such as the space and load-bearing capacity of masts, differing technologies, and planning and access considerations. While these issues can all be overcome, the government heard that costs may be disproportionate, especially in rural areas.[22]

Instead, the MNOs each agreed to extend mobile voice services to at least 90% of the UK landmass by 2017.[23] The government considered this the most effective option as it gave MNOs flexibility on how to improve coverage.[24]

Regulatory action to encourage infrastructure sharing

The government has sought to encourage infrastructure sharing by reducing regulatory barriers. In 2017 and 2021, for example, it introduced reforms to the Electronic Communications Code (ECC), which governs how communications providers gain access to private land to install their equipment.[25]

Briefly, providers need to reach an access agreement with the occupier of the land on which they wish to place their equipment. The precise terms of agreements can vary, but they must grant operators certain rights. The 2017 reforms added a right to share infrastructure. That means that the MNO who

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20 Ofcom, Site sharing, 8 September 2010

21 DCMS, Tackling Partial Not-Spots in Mobile Phone Coverage, [PDF], 5 November 2014, p20

22 DCMS, Tackling Partial Not-Spots in Mobile Phone Coverage [PDF], 5 November 2014, p18-19

23 DCMS, Government secures landmark deal for UK mobile phone users, 18 December 2014

24 DCMS, Tackling partial not-spots in mobile phone coverage: government response [PDF], 12 March 2015, p21

25 House of Commons Library, Building broadband and mobile infrastructure, 7 December 2022, section 3

wishes to use an existing site they just needs the host MNO to agree to share it. They do not normally need to reach a separate access agreement with the landowner, as long as the new equipment does not impose an additional burden on the landowner and does not have an adverse visual impact.[26]

The government has also relaxed planning rules in England so that MNOs can increase the height of an existing phone mast to 25 metres and the width by 50% or two meters (whichever is greater) without having to apply for permission from the local planning authority. The government said that this would allow existing masts to be more easily upgraded to fit additional 5G equipment.[27]

These and other reforms are discussed in the Library briefing, Building broadband and mobile infrastructure (December 2022).

4.2 Rural roaming

The Access to Telecommunications Networks Bill's long title states that it would:

> ...make provision for the purpose of incentivising providers to allow customers of other providers to use their networks...[28]

The Bill would "incentivise" MNOs to provide 'rural roaming' (also called national roaming, domestic roaming, or rural wholesale access). Rural roaming is a mechanism whereby customers who cannot receive a signal from their own MNO's network are able to connect to another network instead. To enable roaming, MNOs need to have an agreement in place to carry traffic from each other's customers (including a payment to the receiving MNO).

Rural roaming is the same in principle as what currently happens when travelling abroad. A limited form of roaming already exists within the UK: calls to the emergency services can be carried over any available network.

Rural roaming and mobile coverage

Rural roaming has been put forward by rural stakeholders as a solution to partial not-spots, as it would allow customers whose MNO is not present in that area to access a mobile network. The Country Land and Business Association, for example, has called it a "common-sense solution to increasing coverage".[29]

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26 Communications Act 2003, Sch 3A para 17

27 DCMS, New laws to end mobile coverage 'no bar blues', 7 March 2022

28 Access to Telecommunications Networks Bill, updated 12 December 2023

29 Computer Weekly, CLA calls for government intervention on rural 4G coverage, 1 April 2010

However, the mobile industry has historically been opposed. Objections include that rural roaming would:

- Result in a poorer customer experience (due to dropped calls and reduced battery life, for example).
- Be technically difficult and time-consuming to implement.
- Not address total not-spots.
- Undermine existing investments, disincentivise future investment, and distort competition.[30]

The Environment, Food and Rural Affairs (EFRA) Committee heard these opposing views on rural roaming for its 2019 inquiry into rural connectivity. Its report, An update on rural connectivity, concluded:

> Rural communities have been told for too long to just wait and see with the unfulfilled promise that mobile coverage will be improved. … Relying on competition between the Mobile Network Operators to tackle not spots and partial not spots in coverage has not worked. The Committee therefore supports a rural roaming solution to tackling poor mobile coverage in rural areas if the industry cannot find a comparable or better solution quickly.[31]

In Wales, the Senedd's Economy, Infrastructure and Skills Committee similarly concluded that while consumer experience issues meant that roaming "is not the ideal solution to poor connectivity", it was "far preferable to deliver greater geographical coverage".[32]

Ofcom looked at rural roaming as an option in its 2018 advice to government on improving mobile coverage.[33] The regulator said that rural roaming "has the potential to be a credible solution for partial not spots". It calculated that, if rural roaming was implemented, customers on all networks would be able to receive a mobile signal in 90-95% of the UK landmass. According to Ofcom, these coverage improvements could be delivered within 9-18 months of a decision to implement rural roaming. It also took the view that the costs to MNOs of rural roaming "do not appear disproportionate", estimating an implementation cost of £5-15 million plus £2-3 million annually for each MNO.

However, Ofcom's advice noted that rural roaming could have a "chilling" effect on investment, and acknowledged technical challenges that could lead to a poor customer experience when roaming. While it believed that these issues could be mitigated to an extent, Ofcom concluded that because of the need to overcome technical challenges, the best way of introducing national

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30 See DCMS, Public consultation on the Statement of Strategic Priorities: government response, July 2019, p14; and DCMS, Tackling partial not-spots in mobile phone coverage [PDF], 5 November 2014, p27-29

31 EFRA Select Committee, An update on rural connectivity [PDF], HC 2223, 18 September 2019, para 83-84

32 Senedd Economy, Infrastructure and Skills Committee, Mobile Action Plan update [PDF], January 2019, p21-22

33 Ofcom, Further options for improving mobile coverage: advice to government [PDF], 2018

roaming would be with the consent of the industry. It said that this would be difficult given MNO's historic opposition to the proposal.

The government's views on rural roaming

The government looked at rural roaming as part of its 2014 consultation on improving rural voice coverage.[34] It noted that as there was "no willingness" on the part of MNOs to offer national roaming voluntarily, it might have to be mandatory. The obligation to provide rural roaming (which would have applied to voice and text services, but not data) would have been imposed through secondary legislation. Further legislation to cap the amount that receiving MNOs could charge was also proposed.

In its response to the consultation, the government concluded that despite the potential to deliver quick coverage gains, national roaming would be complex, expensive, and run the risk of deterring investment in new technologies.[35] As noted above, it opted to pursue rural connectivity through coverage obligations instead.

Nevertheless, in the 2019 Statement of Strategic Priorities for telecommunications (which Ofcom must have regard to in carrying out its duties) the government instructed the Ofcom to keep rural roaming under review as an option for improving rural mobile coverage.[36] The government similarly said in its 2020 response to the EFRA Committee's report on rural connectivity that it would continue to explore rural roaming as an alternative to the SRN (which was under discussion at the time).[37]

An agreement was reached on the SRN in March 2020. When asked about rural roaming in a November 2023 parliamentary question, the Minister, Sir John Whittingdale, pointed to the SRN as the government's chosen means of extending rural mobile coverage. He said that "decisions on rural roaming are commercial decisions for mobile operators".[38]

34 DCMS, Tackling partial not-spots in mobile phone coverage [PDF], 5 November 2014, p27-29

35 DCMS, Tackling partial not-spots in mobile phone coverage: government response [PDF], 12 March 2015, p25

36 DCMS, Statement of Strategic Priorities for telecommunications, the management of radio spectrum, and postal services, 29 October 2019, p11

37 EFRA Select Committee, An update on rural connectivity – government response, HC 2223, 9 March 2020

38 PQ 2368 – Mobile phones: rural areas, 23 November 2023

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