



Department for
Digital, Culture
Media & Sport

A new broadband Universal Service Obligation: consultation on design

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Department for Digital, Culture, Media and Sport

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Foreword

Ministerial foreword

This Government is committed to ensuring the UK has world-class digital connectivity.

To prepare for our future needs, we have a £1.1 billion package of measures to support market delivery of digital networks underpinned by full fibre. As announced in the Spring 2017 Budget, we have allocated £200 million to support local bodies in the roll out of full fibre networks in their area, as well as the first investments in 5G mobile technology. In addition, we have recently launched a £400 million investment fund, and are legislating to exempt new full-fibre infrastructure from business rates for a five-year period starting from 1 April 2017.

We have made good progress so far in extending superfast broadband coverage. £1.7 billion of public funds is being invested in superfast broadband - which currently covers over 93% of the UK, and we are on track to achieve 95% coverage by the end of 2017.

Although the market has been successful in delivering superfast connectivity to the majority, this has been supported by public funding, and even with this support, there are still pockets of the UK where decent connectivity is an aspiration rather than a reality. It is simply not an option to leave these households and businesses without adequate access to key public services, the ability to work flexibly, or to shop and connect with others online.

We are determined to ensure no-one is left behind, and that all the nations of the UK can enjoy the benefits of fast, reliable broadband. We have legislated in the Digital Economy Act 2017 to enable the creation of a new broadband Universal Service Obligation (USO), giving every household and business the right to request a broadband connection at a minimum speed, up to a reasonable cost threshold - no matter where they live or work. We re-confirmed this ambition in our manifesto, and said that by 2020 we would ensure that everyone has access to high-speed broadband.

On 30 July Government announced that BT had made a detailed voluntary proposal for delivering universal broadband of at least 10Mbps to premises across the UK. . We welcome this proposal, which we are carefully considering, as it has the potential to deliver better connections to people more quickly than under a regulatory route. We will work with BT to develop its proposal over the coming months. We will pursue both the regulatory USO and BT's proposal in parallel until a decision is taken on the best route for delivering universal broadband. This consultation seeks your views on the design of the regulatory USO which would then be set out in a Universal Service Order. We look forward to receiving your responses.

RT. HON. MATT HANCOCK MP, Minister of State for Digital

Executive summary

This consultation seeks views on the specification for a new broadband Universal Service Obligation that would be set in secondary legislation.

This consultation draws on the detailed technical analysis that the Government commissioned from Ofcom and was published in December 2016¹.

Once a specification for a broadband USO is set in secondary legislation, it would fall to Ofcom to implement the USO, by designating one or more universal service providers and imposing regulatory conditions on them - more detail on Ofcom's role is set out in section 9.

The key areas we are consulting on are:

- A proposed minimum download speed of at least 10Mbps (Section 3);
- Proposed additional quality parameters of 1Mbps upload speed, minimum standards for latency, a maximum sharing between customers (a 'contention ratio' of 50:1), and data cap of at least 100GB per month (Section 3);
- The technologies which can deliver the USO. Given the proposed specification of the USO, FTTP, FTTC (VDSL and LR-VDSL), fixed wireless and mobile technologies are expected to be in scope, but based on its current capabilities, we expect that satellite is not. (Section 4);
- A proposed cost threshold of £3,400 per premise, and that demand aggregation should be an essential feature of USO implementation to ensure as many people who want to get connected, do get connected (Section 5);
- That there should be uniform pricing for the USO (Section 6);
- That the costs should be met by industry through a cost-sharing mechanism which will be established by Ofcom once the specification for the USO has been set in secondary legislation (Section 7);
- Measures to be taken in designing the USO that will help minimise market distortion (Section 8);
- The current level of market interest in becoming a Universal Service Provider(s) (Section 9); and
- Proposed arrangements for monitoring and review of the USO (Section 10).

The closing date for responses is 9 October 2017. Next steps are set out in section 11.

¹ https://www.ofcom.org.uk/_data/assets/pdf_file/0028/95581/final-report.pdf

Section 1 - Consultation scope and how to respond

This consultation seeks your views on the specification for a new broadband Universal Service Obligation (USO) to be set in secondary legislation.

The geographical scope of this consultation is the UK.

This is a public consultation. We particularly seek views from the electronic communications industry (network operators, and internet service providers), and both business and residential consumers as well as representative organisations.

The consultation period will run for 10 weeks from 31 July to 9 October 2017 and a summary of responses will be published in due course.

We have set up a dedicated website to manage comments and responses to this consultation. Please click [here](#) or visit: https://dcms.eu.qualtrics.com/jfe/form/SV_2sq00OvK1gqgnU9 to add your views.

You can also submit responses or material for consideration, for example, documents that cannot be uploaded on the website, to broadbandusoconsultation2017@culture.gov.uk

Responses or material sent to any other email addresses will not be taken into consideration.

If you cannot reply online or via email please respond by post:

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Digital, Culture, Media & Sport
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London
SW1A 2BQ

For enquiries about the consultation (handling) process only please email enquiries@culture.gov.uk, heading your communication 'Broadband USO Consultation'.

This consultation is intended to be an entirely written exercise. Please contact the Telecoms Directorate on 020 7211 2825 if you require any other format, e.g. braille, large font or audio.

The Government may publish responses received. Information provided in response to this consultation, including personal information, may be published or disclosed in accordance with the access to information regimes (primarily the Freedom of Information Act 2000 (FOIA), the Data Protection Act 1998 (DPA) and the Environmental Information Regulations 2004). If you want the information that you provide to be treated as confidential, please be aware that, under the FOIA, there is a statutory Code of Practice with which public authorities must comply and which deals, amongst other things, with obligations of confidence. In view of this it would be helpful if you could explain to us why you regard the information you have provided as confidential. If we receive a request for disclosure of the information we will take full account of your explanation, but we cannot give an assurance that confidentiality can be

maintained in all circumstances. An automatic confidentiality disclaimer generated by your IT system will not, of itself, be regarded as binding on the Department.

The department will process the information you have provided in accordance with the Data Protection Act, and in the majority of cases, this will mean that your personal information will not be disclosed to third parties.

This consultation follows the Government's Consultation Principles 2016 which are available at:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/492132/20160111_Consultation_principles_final.pdf

Section 2 - Background

Government intervention to date

Even with high levels of superfast broadband coverage across the UK, there are areas that have not been reached by commercial investment alone. These generally, though not exclusively, tend to be rural or remote areas, where the costs of installing infrastructure can be significantly higher than in urban and suburban areas, and often outweigh the potential revenues, making the case for commercial investment weak. But urban areas are also in scope and have their own challenges which make them hard to reach, for example because of access issues.

Government interventions have helped to tackle this market failure. This support has largely been provided through the Superfast Broadband Programme, led by Broadband Delivery UK (BDUK) within DCMS. Working in partnership with local authorities and commercial providers, this programme is on track to deliver superfast broadband of at least 24Mbps to 95% of the UK by the end of this year. BDUK estimates that efficiency savings, coupled with clawback and further commercial roll-out, could extend superfast broadband coverage to 97% of UK homes and businesses by 2020.

In addition, in December 2015, the Government launched a scheme offering a subsidised broadband connection, which included the option of superfast speeds, to homes and businesses unable to obtain a broadband service of at least 2Mbps. This scheme formed part of the Government's commitment to make sure every home and business in the UK could access speeds of at least 2 Mbps by the end of 2015. This "Universal Service Commitment" acts as a non-statutory safety net for digital connectivity

In the 2016 Autumn Statement, the Government announced a £1.1bn package of measures to support investment in digital infrastructure, set out in the Digital Strategy. This is aimed at ensuring the UK has the digital connectivity it needs for the future - full fibre networks and 5G. As part of this, on 3 July 2017, the £400m Digital Infrastructure Investment Fund² was launched to help accelerate the roll out of full fibre networks by increasing access to private finance for companies delivering them. And, on 4 July 2017, the Telecommunications Infrastructure (Relief from Non-Domestic Rates) Bill³ was introduced in Parliament which will exempt new full fibre investment from business rates for five years.

We are also removing regulatory barriers to support industry investment. For example, through the Digital Economy Act we have made permanent the 2013 planning requirements

²

<https://www.gov.uk/government/news/billion-pound-connectivity-boost-to-make-buffering-a-thing-of-the-past>

³

<http://services.parliament.uk/bills/2017-19/telecommunicationsinfrastructure/relieffromnondomesticrates.html>

making the deployment of fixed broadband infrastructure quicker and cheaper. We have also reformed the Electronic Communications Code to update rules on installation and maintenance of communications infrastructure on private land.

Universal broadband

In recognition of the increasingly important role broadband plays in people's lives, and in recognition that a small but significant minority of premises is still unable to access decent broadband, in November 2015, the Government set out its intention to introduce a broadband universal service obligation (USO), which would give everyone a right to a fast broadband connection on request⁴. The Government's stated ambition was for the minimum speed to be set at least 10Mbps.

For individuals, this is about not missing out on chances to find employment, saving money on household bills, and keeping in touch with friends and family. It is about helping our children to do their homework and making sure that families can access a greater range of information and services, including public services, which are increasingly becoming 'digital by default'. It is also about getting people in both rural and urban areas across the four nations of the UK online - enabling them to access services, work, shop and communicate without the need for travel. The benefits of greater connectivity are shared throughout communities, including by supporting small businesses to get online, compete and grow.

The rationale for a USO is to act as a 'safety net' where market forces alone do not deliver affordable access to basic services for people. USOs aim to ensure that a minimum set of communications services are available to everyone at a fixed location, upon reasonable request, and at an affordable price, irrespective of where they live or work, in order to prevent social and economic disadvantage. A USO connection would be demand-led, provided on request from a designated Universal Service Provider, or providers, rather than delivered via a commercial or publicly-funded roll out.

In March 2016, the Government published a consultation on its proposed approach to introducing a new broadband USO.⁵ The consultation set out the Government's intention to introduce primary legislation to give the Secretary of State an explicit power to introduce - and review - a broadband USO. Enabling powers for a broadband USO were subsequently included in the Digital Economy Act 2017⁶ which received Royal Assent on 27 April 2017.

⁴ Government press release, November 2015

<https://www.gov.uk/government/news/government-plans-to-make-sure-no-one-is-left-behind-on-broadband-access>

⁵ A New Broadband Universal Service Obligation: Consultation, March 2016

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/510148/Broadband_Universal_Service_Obligation.pdf

⁶ <http://www.legislation.gov.uk/ukpga/2017/30/contents/enacted>

During the passage of the Act the Government published a Statement of Intent on the principles that would guide the design of the USO⁷ :

- The design of the broadband USO must put people and businesses throughout the United Kingdom at its heart in order to secure the benefits of digital connectivity for as many people as possible, as quickly as possible.
- It must ensure that everyone can access a decent broadband service which meets the needs of the majority of people and businesses. It is clear this will need to be increased as consumer needs change and the USO must be designed with this in mind. The new review power in the Digital Economy Act to direct Ofcom to review the USO will ensure that it is future-proof.
- The broadband USO must extend the reach of decent broadband connectivity as far as possible across the United Kingdom, in both rural and urban areas. Its design will need to take into account the specific challenges of connecting the most remote or difficult-to-reach locations.
- Connections will be subject to a cost threshold. Above this cost threshold consumers will still have the right to fast, reliable broadband, but may have to contribute to the cost of connection, as is the case with telephone lines.
- The USO must act as an effective complement to commercial, community and publicly funded roll outs. It must not displace any planned rollout of higher speed broadband; must be affordable; and will need to be designed to minimise any market distortion.
- The USO must be proportionate and ensure that, wherever possible, costs associated with the USO are minimised while still meeting the needs of people and businesses. For example, by exploring whether connection requests can be combined to reduce costs.
- The USO must be legally binding, measurable and enforceable.

To help inform decisions about the design of the USO, and the specifications that would be set in secondary legislation - including the minimum speed, quality and other more detailed requirements and guidance - in March 2016, the Government commissioned Ofcom to provide detailed technical advice⁸. To support this, in April 2016, Ofcom published a Call for Inputs⁹ seeking views from consumers and industry to inform their analysis, and in August 2016, Ofcom published a summary of the responses received¹⁰.

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https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/562484/USOStatementofIntentfinal11October__2_.pdf

⁸ https://www.ofcom.org.uk/_data/assets/pdf_file/0027/53676/dcms_letter.pdf#DCMS%20Letter

⁹ https://www.ofcom.org.uk/_data/assets/pdf_file/0025/58336/broadband-uso.pdf

¹⁰ https://www.ofcom.org.uk/_data/assets/pdf_file/0025/68335/summary_of_responses.pdf

Ofcom's USO analysis

In December 2016, Ofcom published its report - "Achieving decent broadband connectivity for everyone"¹¹. The report set out Ofcom's advice to Government on how to achieve a decent broadband connection for all, analysis of the range of issues that would need to be considered for the design of the USO, and a set of scenarios for its design.

The report recognised that any policy to deliver universal, decent broadband was complex, with many inter-related design features to be considered.

Foremost amongst the design challenges is the definition of what level of service the USO should deliver. Ofcom's Call for Inputs found that stakeholders had differing views on what the technical specification for the USO should be. Some argued for a 'safety net' to complement existing public and private sector-led broadband deployments, while others argued for a more highly specified universal service for all, with the cost of such interventions a more secondary consideration.

Ofcom modelled three scenarios:

- Scenario 1: a standard broadband service, characterised only by a 10Mbps download speed;
- Scenario 2: a more highly specified 10Mbps service, adding 1Mbps upload speed, and minimum standards for latency (medium response time), maximum sharing between customers (a 'contention ratio' of 50:1), and data cap of at least 100GB per month; and
- Scenario 3: a superfast broadband service, with download speeds of 30Mbps, upload of 6Mbps, fast response times, a 'committed information rate' of 10Mbps (i.e. guaranteed 10Mbps at all times) and an unlimited usage cap.

DCMS subsequently asked Ofcom to model a fourth scenario between Scenarios 2 and 3:

- 20Mbps download, 2Mbps upload; latency (medium response time), contention ratio of 50:1, and a data cap of 100GB per month

The modelling of this scenario - together with updated estimates for the original three scenarios - are published as a further addendum to Ofcom's December report.

Ofcom estimated the baseline number of premises under each of the scenarios using data from its 2016 Connected Nations Report. It also provided forecasts for the size of the footprint for the end of 2017 and early 2020s using BDUK estimates for future superfast coverage and known commercial investment plans. (Table 1)

¹¹ <https://www.ofcom.org.uk/consultations-and-statements/category-1/broadband-uso>

Table 1: USO footprint - Future projections of the number of eligible premises

Million premises (as % total UK)	Scenario 1: 10Mbps download speed	Scenario 2: 10Mbps download + 1Mbps upload	20Mbps scenario: 20Mbps download + 2Mbps upload	Scenario 3: 30Mbit/s download + 6Mbit/s upload
2016	1.4m (5%)	2.6m (9%)	3.0m (10%)	3.5m (12%)
End of 2017	~1.1m (4%)	~1.8m (6%)	1.9m (7%)	~2.0m (7%)
Early 2020s	~0.3m (1%)	~0.6m (2%)	0.9m (3%)	~1.1m (4%)

Ofcom found that premises in scope of the USO are predominantly, though not exclusively, in rural areas - Ofcom calculates that for scenario 1, 70% of premises in the USO footprint are in rural areas.¹² For scenarios 2, 20Mbps and scenario 3, the percentage of rural premises is lower - 45%, 48% and 47% respectively - as the higher specification brings more urban premises within scope of the USO.

Ofcom also found that a higher percentage of premises in Wales, Scotland and Northern Ireland cannot receive 10Mbps than in England, largely because they have proportionately more rural premises, as seen in Table 2 below. However, in some urban areas network deployment can be problematic and more costly making the commercial case for investment weak. This can be for a variety of reasons - the costs of streetworks, difficulties in gaining access to locations for new street cabinets, complexity of re-engineering old legacy copper telephone networks, and limited numbers of potential residential customers in locations where businesses have their own bespoke networks.

However, a complicating factor is that a household or business may mistakenly believe it is unable to access speeds of 10Mbps or higher because of factors inside their home or building, such as where their wi-fi router is positioned, or internal wiring issues. These factors will have nothing to do with the speeds that the network they subscribe to is providing, but may lead people to think they cannot access services, when in fact they can.

Ofcom's report identified that as public and commercial investments extend superfast network coverage, the number of premises in scope of the USO (Table 2), and the total deployment costs (Table 3) would reduce over time.

¹² https://www.ofcom.org.uk/_data/assets/pdf_file/0028/95581/final-report.pdf page 20

Table 2: USO footprint - Projected estimate of the number of eligible premises by scenario, and by nation, in 2016, 2017, and early 2020s

	Million premises (as % of total premises in Nation)	Scenario 1:	Scenario 2:	20Mbps scenario	Scenario 3:
2016	England	1.0m (4%)	1.9m (8%)	2.2m (9%)	2.6m (12%)
2017		0.8m (3%)	1.5m (6%)	1.5m (6%)	1.5% (6%)
Early 2020s		0.2m (1%)	0.5m (2%)	0.7m (3%)	0.9m (4m)
2016	Scotland	0.2m (8%)	0.4m (14%)	0.4m (15%)	0.4m (17%)
2017		0.1m (5%)	0.2m (9%)	0.2m (9%)	0.3m (10%)
Early 2020s		0.04m (1%)	0.07m (3%)	0.1m (4%)	0.1m (5%)
2016	Wales	0.1m (9%)	0.2m (12%)	0.2m (13%)	0.2m (16%)
2017		0.1m (8%)	0.1m (8%)	0.1m (8%)	0.1m (10%)
Early 2020s		0.02m (2%)	0.04m (3%)	0.07m (5%)	0.08m (6%)
2016	Northern Ireland	0.06m (9%)	0.08m (10%)	0.1m (14%)	0.1m (17%)
2017		0.04m (6%)	0.03m (4%)	0.04m (5%)	0.07m (9%)
Early 2020s		0.01m (2%)	0.02m (3%)	0.04m (5%)	0.03m (4%)

TABLE 3: Estimates of USO deployment costs

Total cost	Scenario 1: 10Mbps download speed	Scenario 2: 10Mbps download + 1Mbit/s upload	20Mbps download 2Mbps upload	Scenario 3: 30Mbps download + 6Mbps upload
2016	£1.1bn	£1.7bn	£1.9bn	£2.4bn
End of 2017	~£1.0bn	~£1.5bn	£1.6bn	~£2.1bn
Early 2020s	~£0.7bn	~£1.0bn	£1.3bn	~£1.7bn

There are clear dependencies and trade-offs between the quality of service, the costs of providing the connections, and the level of coverage and these require careful consideration.

There are also a number of important constraints on the design of the USO that need to be taken into account, as a result of the legal framework it has to operate within:

- It is an on-demand scheme under which households and businesses are connected on reasonable request, rather than a roll-out programme designed to deliver connections to all; Government's view is that we would need to allow a period of time, perhaps 6 months or longer, to give people sufficient time to register their interest, for the demand to be aggregated, to enable cost efficiencies to be achieved - or else the costs of connecting people may be too high. This is explored further in section 5;
- The high cost of universal broadband deployment, and the fact that funding of any net cost burden would be only be available retrospectively, limits the number of providers who might be designated as universal service providers. This is because smaller providers may be less able to bear the initial up-front costs of deploying the broadband USO.

The following chapters consider the key design considerations for the USO in detail.

Question 1 - Do you agree with the future projections of the USO footprint? Do you have any further evidence of commercial or publicly funded rollout during this period which will influence the scale of the footprint?

Section 3 - Specification of the USO

Speed

A regulatory USO would need to have a specified minimum download speed, so it is clear what level of service people can expect, and what the obligation on the designated universal service provider, or providers, would be.

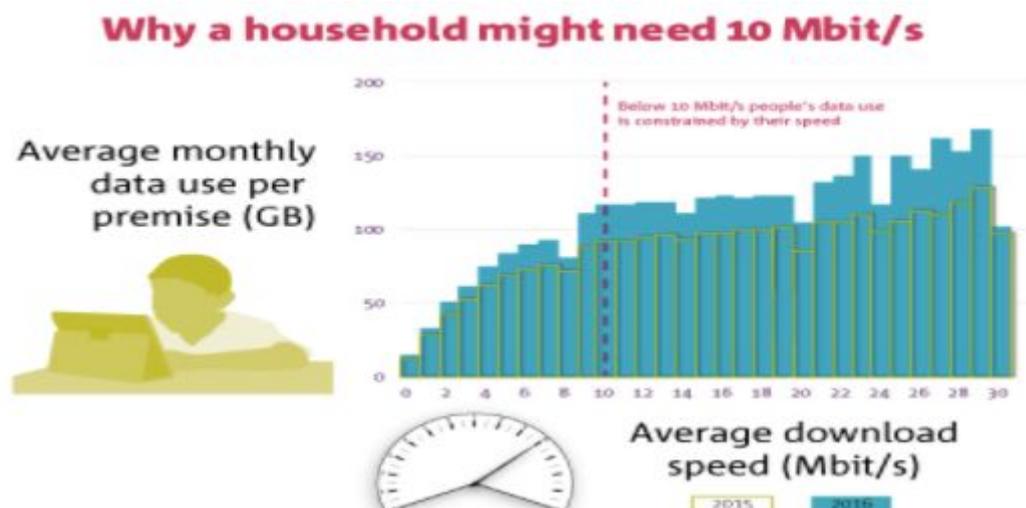
This will not only determine what people can do online, but it will also significantly impact on the technologies capable of delivering the USO; which providers can deliver the USO; and what the costs are.

We want a regulatory USO to meet the needs of households and small businesses - but, given the costs involved, it must be proportionate. It needs to balance meeting the speeds that people require now, without requiring a short term review of speeds, with a more highly specified service that would meet people's needs for longer, but would cost substantially more and therefore be disproportionate given the already high costs of connecting hard to reach areas,

When we announced our intention to introduce a new broadband USO, we said that our ambition was to set it at a minimum speed of at least 10Mbps. This is because:

- Ofcom's analysis had shown that 10Mbps would meet the typical household's needs. It will allow households to stream films in HD, watch catch-up TV, make video calls and browse online. Consumers on connections of less than 10Mbps tend to use less data, suggesting that internet usage is constrained below this speed.
- Such speeds allow effective delivery of HD video streaming and multiple users on a broadband connection.
- Ofcom's view is that 10Mbps may be sufficient for now but may need to evolve over time.

Relationship between download speed and data usage



The more ambitious the regulatory USO is, the greater the level of consumer satisfaction - but so too the greater the cost, the length of time to achieve it, and the level of market distortion. The Government's decision therefore requires careful balancing of these factors. It is our view that Ofcom's Scenario 2, that a 10Mbps download speed with quality parameters, best achieves this.

It is important to be clear that 10Mbps is not the limit of our ambitions for digital connectivity in any part of the UK. We are pushing forward with plans to ensure that the UK has the digital infrastructure it needs to be fit for the future - this measure is about ensuring that those in hard-to-reach areas are guaranteed a minimum level of service.

The Digital Economy Act provided a power for the Secretary of State to direct Ofcom to review the USO at any time, after consulting Ofcom, and for a specific requirement that once 75% of all premises take up 30Mbps broadband the minimum speed would be reviewed. This will ensure the USO remains relevant over time and continues to meet people's needs. The review of the USO is discussed further in Section 10.

Additional quality parameters

In addition to download speed, a number of other factors will also affect the consumer experience - upload speed, latency, contention ratio and capacity. We therefore propose to include quality parameters alongside the download speed in the specification of the USO as follows:

Upload speed - Most consumer internet usage today relies mostly on downloading content such as web-browsing, email and standard video streaming. However, some other common applications, such as video conferencing and sharing large images and video files (which may be particularly useful for SMEs) can require a specified upload speed. Ofcom's

scenario 2 includes an upload speed of 1Mbps, and this in particular is included to help support small businesses depending on USO connections.

Contention - the degree to which bandwidth is shared with different end users. The inclusion of a specified contention ratio would help to mitigate against speed reduction at busy times. Ofcom's scenario 2 includes a 50:1 contention rate.

Latency - the round trip delay in the transmission of data. In particular, this can affect the performance of live applications, such as live video streaming, gaming and video calling/conferencing. Ofcom's scenario 2 includes medium response times.

Minimum data cap - Providers use data caps to manage the amount of data consumers use. This is particularly an issue where network capacity is constrained, and providers often charge more for higher data caps. Ofcom's scenario 2 contains a minimum data cap of 100GBs.

Question 2 - are upload speed, contention, latency and data caps the right quality parameters to specify alongside the minimum download speed?

Section 4 - Technologies

The USO is aimed at providing connectivity to some of the hardest to reach parts of the country, including remote rural areas.

The technologies available to deliver USO connections will depend on what the specification of services is, the location and distribution of premises, the current capabilities of particular technologies and their deployment costs. Some technologies, such as fibre to the cabinet (FTTC), reuse existing infrastructure to deliver connections, while others require completely new networks to be built.

The USO should be technology neutral. However, the proposed specification of quality parameters as described in Section 3 means that some technologies are likely to be out of scope based on their current capabilities.

Speeds of 10Mbps can be delivered by a range of different technologies, however, technologies are not equal, for example:

Fibre to the premise - the fastest, most flexible and dependable solution, which has been used for many years to connect major business locations. It is, however, expensive to install.

Fibre to the cabinet - is the most common form of broadband connection in the UK, which uses the existing copper telephone network. Fibre is installed to the local telephone cabinet, and the remaining distance to each premises uses the existing copper line. This technology can typically provide superfast speeds (24Mbps and above) but the speed received depends on the distance between the cabinet and the premises.

BT has been developing a new technology - Long Range-VDSL - which increases the performance of copper-based broadband delivered from street cabinets, by increasing the power at which signals are transmitted. It potentially could almost double the length of copper line over which 10Mbps broadband speeds can be delivered which will be particularly useful in delivering faster speeds in remote parts of the UK.

Fixed wireless - fixed wireless broadband is the operation of wireless devices or systems used to connect two or more fixed locations. The advantages of fixed wireless include the ability to connect with users in remote areas without the cost of a wired connection to each premise.

Satellite - can offer high speeds, but has limited capacity and is not highly dependable, however, it may be the only choice for very remote locations.

4G - can be both high speed and low latency, but has limited capacity, is more expensive

than fixed broadband, and it is very dependent on network coverage and signal quality.

We asked Ofcom to examine this issue. Ofcom’s summary of the technical capabilities of different technologies to meet the scenario requirements is as follows:

Technology	Scenario 1: 10Mbit/s download speed	Scenario 2: 10Mbit/s download + 1Mbit/s upload	Scenario 3: 30Mbit/s download + 6Mbit/s upload
FTTP	Yes	Yes	Yes
FTTC (VDSL & LR-VDSL)	Yes	Yes	Yes
Fixed Wireless and mobile	Yes	Yes	Potentially
Satellite	Potentially ¹³	No	No

Source: Ofcom 2016

We believe that given the challenging geography and topography that will need to be overcome in order to connect remote premises, it is unlikely that any single technology would likely to be appropriate to ensure 100% coverage, and therefore a mix of solutions will be required.

Alternative technologies may also be able to deliver USO connections. However, the technologies above have been selected because they are available now, and are able to offer coverage across the UK, and the costs associated with them are relatively well understood. This does not mean that alternative technology solutions are excluded, provided that they meet the specification.

Question 3 - Is this assessment of technologies accurate based on current capabilities?

¹³ Satellite’s and mobile’s ability to meet (respectively) the requirements of scenario 3 and 1 depends on the number of potential customers being addressed. A significant number of customers will result in a risk of poorer consumer experience than 10Mbps.

Section 5 - Eligibility and Reasonable Cost Threshold

Eligibility

Under the regulatory USO, a Universal Service Provider would only be required to meet requests for a USO connection that are considered 'reasonable', so the basis on which this is decided is an important issue. It would dictate which premises would be eligible to be connected, and the overall cost of delivering the USO. In designing the USO, we are keen to ensure a proportionate balance between ensuring as many consumers as possible benefit from the USO, and ensuring the costs of delivery are not disproportionate.

The first question is whether a household or business which already has available to them services which meet the USO specification from another network provider should be eligible to be connected under the USO, or whether the USO should be restricted to people who cannot access these speeds from any provider. This would clearly have a considerable implications for the design and costs of the USO, and on competition in the market.

Our preference is for a design where eligibility is restricted to those who cannot already receive a connection above the USO level, since our rationale for the USO is about extending coverage to those who do not have it, or do not expect to have it under planned commercial and publicly funded roll outs over the next few years.

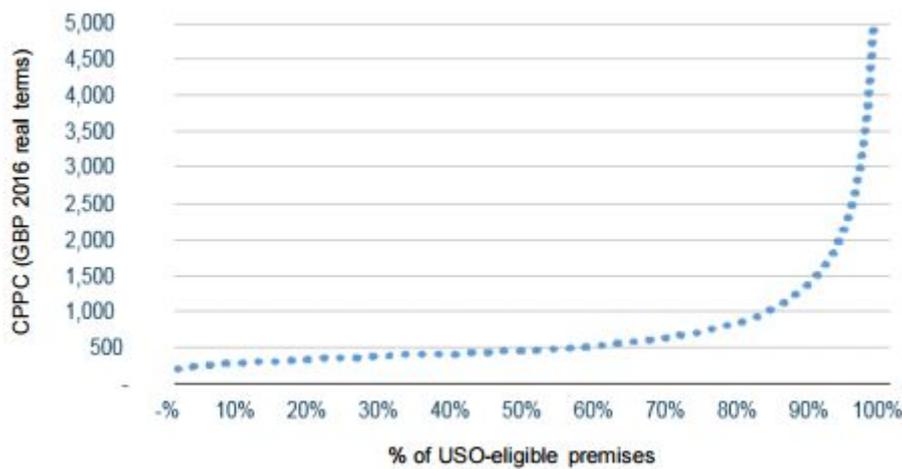
This would restrict eligibility for a USO connection to all households and businesses that do not have a connection which meets the USO specification available to them from another provider. Under the current regulatory framework it is optional whether the USO should apply only to consumers' primary location or residence. The draft Universal Service Order at Annex A and the Impact Assessment at Annex B assume that the USO will apply to all premises without a connection that meets the USO specification without any limitation on whether it should apply only to primary locations. We would welcome views on whether there should be any restrictions on the types of premise which should be considered eligible for a USO connection, so that we can consider whether any changes should be made to how USO eligibility is specified in the Universal Service Order, and whether the Order should provide guidance to Ofcom on this point.

There are two ways in which the overall number of premises in scope of the USO can be determined. A national coverage target could be set, such as the 98.5 per cent target for Digital Terrestrial Television. Or it could be determined by setting a per premise cost threshold, such as there is for telephony, and in relation to the provision of water services. Our view is that setting a coverage target is unlikely to be a transparent and helpful way of helping people understand whether or not their request for a connection is reasonable. We therefore propose to set a reasonable cost threshold.

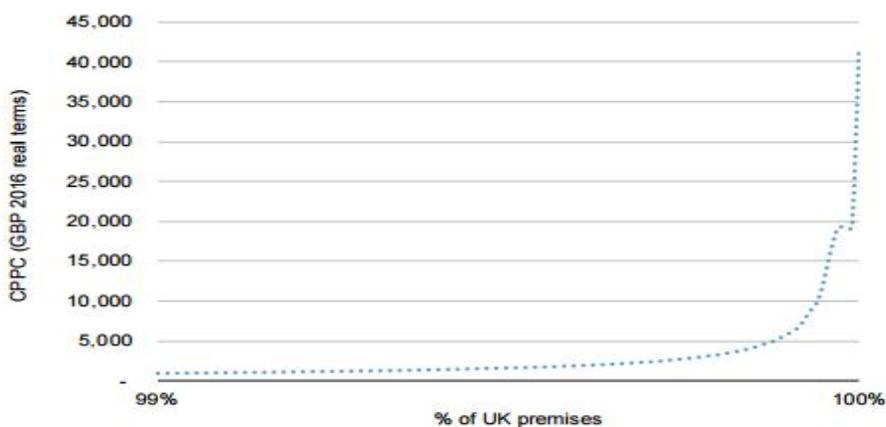
A reasonable cost threshold will also help ensure that the cost of delivering the USO is proportionate, given the high per premise cost of connecting very hard- to-reach premises.

The costs for the final 1% are especially high: Ofcom's USO report indicates that these premises have an average cost that ranges from £2,780 per connection for standard broadband to £3,350 for superfast broadband, and that those premises in the final 0.5% can cost between £4,460 and £5,100. Ofcom estimated that the cost of serving the most expensive premises could be as much as £45,000 in all three of their scenarios. The graphs below shows the relationship between total cost and the number of premises connected. The relationship is clearly exponential, as the marginal cost of connecting every extra premise increases at a faster rate for each premise connected. The cost curves are for scenario 1 only, and therefore are simply indicative.

Cost per premise connected scenario one, 2016



Cost per premises connected - final 1% of UK premises, Scenario 1, 2016



Ofcom modelled the impacts on cost and coverage of three reasonable cost thresholds - at £3400, £5,000 and £10,000. See table below for the impact on the coverage and cost of delivering the USO for scenario 2.

Reasonable cost	#premises left unserved	Reduction in costs of USO
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threshold		
> £3,400	60,000	c£400m
> £5,000	35,000	c£320m
>£10,000	12,000	c£170m

A high cost threshold hold would lead to greater coverage but higher costs overall. So we need to decide a proportionate balance between the coverage and the cost of delivering this.

We are proposing that the reasonable cost threshold for premises to be connected should be set at £3,400, which would provide coverage of around 99.8% of all premises, based on Ofcom's modelling, on the basis that it achieves a high level of coverage, before reaching the very expensive cost per premises in the final 1%.

In Section 7, we propose an industry fund (the sharing mechanism would be designed by Ofcom) for any unfair net cost burden faced by the designated Universal Service Provider to be distributed amongst other industry players. The contributors to the fund may decide whether to pass on some or all of their contribution to consumers, so we expect setting the cost threshold at a lower level will also help minimise any increases in consumer costs.

We also consider £3,400 to be a reasonable cost threshold based on what we have learned through the BDUK Superfast Programme about deployment costs across the country, where the cost per premise trajectory has been increasing significantly as deployments increasingly extend into very hard to reach areas.

Those premises above the cost threshold would have the option of paying excess costs beyond the £3,400 threshold in order to get a better connection, including paying the additional costs of getting a wired connection if only fixed wireless or satellite is available to them, or of doing some of the work themselves to reduce costs. For those unwilling or unable to do so, the alternative would be a satellite connection.

If you disagree with the proposed threshold we would be interested in receiving evidence on why the cost threshold is too low or/ too high and what it should be set at.

Take-up

The combination of the speed, quality, and cost (per premise) will determine the level of take-up of broadband under the USO, as will promotion and awareness of its benefits. This will, of course, have a significant bearing on the total cost of the regulatory USO, a lower level of demand will result in a lower cost to industry, or a higher cost per premise. Given that the regulatory USO would be demand-led, it is important to understand how many people will actually request to be connected, as this will have a large bearing on the final cost.

There are a number of sources and some historical examples from which we can draw estimations of demand, including retail broadband demand, superfast demand from BDUK programmes, Market Test Pilots, and connection voucher schemes. Ofcom estimates of the total cost of deployment has assumed that penetration of broadband in USO areas would end up at around 80%. We would welcome views on whether this is a reasonable assumption to make.

Demand aggregation

Since the USO would be demand-led, connections are made upon request.

Since the capital costs of infrastructure for many technologies, including copper, fibre and fixed wireless, can be unaffordable unless a number of premises subscribe, there is a risk that without a means of aggregating demand, cost thresholds on an individual basis will be exceeded and this will leave people without connections. There is also a risk that cost savings will not be made if demand is under-estimated, since greater efficiencies will be possible though aggregating requests. We therefore believe it is essential that a mechanism for aggregating demand is built into the design of the USO. This can be done in several ways:

1. Individuals and communities can be encouraged to co-ordinate and collaborate on requests for connectivity under the USO
2. Providers can be encouraged to aggregate requests for connection (if they chose to, the provider could speculatively invest in infrastructure in anticipation of demand, as in normal market operation).
3. This could be carried out by a third party, for example local authorities.

We expect that the most efficient way to aggregate demand would be if it is led by the designated Universal Service Provider and the draft Universal Service Order at Annex A reflects this, but would welcome views on this.

Question 4 - Is £3,400 the right level to set the cost threshold in order to balance the need to extend coverage as far as possible at reasonable cost?

Question 5 - What other factors should be considered when determining eligibility?

Question 6 - Are there any categories of premises which should be ineligible for a USO connection?

Question 7 - do you agree with the assumption on USO demand that has been included in the Impact Assessment (Annex B)?

Question 8 - are the benefits of the USO, as set out and modelled in the Impact Assessment (Annex B), comprehensive and accurate? Do you have any further evidence on the benefits of the USO?

Question 9 - what would be the most effective way to aggregate demand, including how long a period should be allowed for demand aggregation?

Question 10 - should Government provide guidance to Ofcom on demand aggregation?

Section 6 - Affordability

Affordability is a key principle of universal broadband, and both European and UK legislation requires that universal service should be priced to ensure affordability. This may be achieved either differential or uniform pricing.

Differential pricing would allow the Universal Service Provider to set up-front and/or ongoing charges at higher levels in the areas where services which do not meet the USO specification are not currently available. Pricing would reflect the higher cost of serving these areas, although a pricing cap might be needed to ensure affordability.

Alternatively the Universal Service Provider would be required to offer uniform pricing for upfront and ongoing charges. This would ensure that those in areas not currently served would pay no more than those in the rest of the UK.

Rural areas are disproportionately affected by the lack of access to fast broadband, given their remoteness and low population densities, and consequently the high cost of delivering broadband to them. Our view is that those obtaining connections and services under the USO should pay no more than consumers in areas served by commercial providers. We therefore propose to include reference to a uniform pricing in the Universal Service Order to achieve that aim. We recognise this is challenging, given the anticipated lower revenues particularly in sparsely populated areas, but this is an important principle if we are to ensure people in rural areas are no worse off than those in urban areas. The uniform pricing requirement will however only apply to those technologies which are capable of meeting the specification for the USO, and will not include satellite.

The universal services covered by the Universal Service Directive refer to the broadband connection (ie the installation or upgrade of the connection) and do not currently refer to the broadband service (ie the ongoing service for which a monthly fee is typically payable). Ofcom are of the view though that affordable broadband connection and service charges should be a key element of any broadband USO policy design, in the same way as applies under the telephony USO. The Government also considers that affordability of the service is intrinsic to the design of the USO and the enabling powers for the broadband USO in the Digital Economy Act 2017 enables the Universal Service Order to provide for broadband connections and services and to set out guidance to Ofcom concerning pricing in relation to connections and services, and the draft Order at Annex A provides for this.

Under the current telephony USO a social tariff is available for consumers who are on low incomes. For the new broadband USO, our primary rationale is to ensure that network coverage exists so that people can get online if they want to. We therefore do not propose to make it a regulatory requirement for a social tariff to be included in the broadband USO at this time. We expect BT and KCOM, the Universal Service Providers for the telephony USO to continue to provide a social tariff for broadband as they do currently.

Question 11 - Do you agree that uniform pricing for the broadband connection and services should form part of the USO?

Section 7 - Funding

In the hardest to reach parts of the UK, installing broadband infrastructure is a complex and costly civil engineering job. It often means higher investment costs than in urban and suburban areas, given the lack of existing infrastructure and the distances that are involved. In addition, the civil engineering challenges are greater in what are often more remote locations with more physical challenges to overcome. But we are clear that urban areas come with their own challenges which can make some premises hard to reach - for example where there are access issues.

A significant cost for non-satellite infrastructure, particularly in hard to reach areas, is the backhaul - the connection between the local infrastructure and the wider network, because of the increased distances involved. The case for commercial investment is made more challenging by the lower revenues that can be achieved in these areas: rural areas have a lower density of premises than urban areas, and so achieving an acceptable return on the investment is difficult to make.

The USO is intended to provide a safety-net which guarantees a broadband connection at a minimum speed in areas of the country where the market has not delivered, or is unlikely to deliver. Current estimates are that this will be the final c3% of premises across the UK but the precise number of premises could be lower than this, as a result of ongoing commercial and publicly funded investment in superfast and ultrafast broadband.

The Universal Service Provider will be expected to take a mixed technology approach to delivering the USO to ensure the most cost efficient roll out. The USP(s) can receive funding to compensate any unfair net cost burden associated with providing the broadband USO. The net cost is the total cost of providing the broadband USO, less any direct or indirect benefits derived by the USP(s). Benefits can include:

- revenues from new customers who switch to the USP(s);
- incremental revenues from existing customers who choose to take up a higher specification service over the USO connection (e.g. superfast broadband, where the connection would enable this); and
- indirect benefits such as brand image.

It will be for Ofcom to calculate the net costs of the broadband USO following a request for funding from the USP(s), and determine whether that net cost was an unfair burden on the USP(s)

Under the current regulatory framework there are three options for compensating the USP(s) for any unfair net cost burden - public funding, an industry fund, or a combination of the two.

The core principle of a USO is of affordability since this helps preserves its universality. We

want to ensure that consumers can get a fair deal. We also need to ensure value for money for the taxpayer, and are mindful of not shouldering industry with excessive costs - not least of all because this has the potential to be counter-productive if it disrupts wider investment plans.

The substantial public investment in the rollout of broadband to date has been instrumental in achieving high levels of coverage right across the UK. £1.7bn of public money is being invested to extend superfast coverage. As a result of that intervention an additional 4.4 million homes and businesses now have superfast broadband available to them thanks to the Government's Superfast Broadband Programme, that would not have done if it had been left to the market. More premises are likely to benefit as the Superfast Broadband Programme extends coverage further by reinvesting efficiency savings and clawback, the mechanism by which, as superfast broadband take-up rises above 20%, funding is returned. The communications sector is already benefitting and will continue to benefit from the expansion in the size of the superfast broadband market.

We are also investing £200m to fund locally-led projects across the UK to leverage local and commercial investment in full fibre, beginning the first wave of projects in 2017. The £400m Digital Infrastructure investment Fund announced on 3rd July will help accelerate the roll out of full fibre digital networks by increasing access to private finance for companies delivering them.

Given continued pressures on public funding, and substantial investment to date and committed in future, the Government thinks it is right for industry to fund delivery of universal broadband. Our view is that a cost-sharing mechanism which allows costs to be shared across a number of industry players ought to provide sufficient funding to deliver the USO without overly burdening industry or any one single provider.

Currently, the Universal Service Obligations placed on BT and KCom for the telephony USO are not considered to amount to a net cost burden and so there is no existing compensation mechanism in place. Ofcom will need to design an industry cost sharing mechanism for the purposes of the broadband USO, including determining which communications providers should contribute to it. Section 71 of the Communications Act 2003 requires Ofcom to make regulations where there is an unfair net cost burden, and Ofcom has a duty to ensure that the mechanism is objectively justifiable, non-discriminatory and causes the least distortion of competition or consumer demand. Ofcom will consult on the design of an industry fund.

Section 8 - Minimising market distortion

The USO has the potential to create several distortions to the current operation of the broadband market (at wholesale and retail levels). The current regulatory framework for the USO requires that any market distortions are minimised. Both Government and Ofcom have a role in achieving this; Government through the design of the obligation which is specified in secondary legislation, and Ofcom through the design of the industry cost sharing mechanism.

The risks of market distortion increase the higher we set the specification for the USO. This is principally because the costs increase, and there will therefore be a greater burden on industry to fund this.

We think these risks can be managed by limiting the potential for overbuild - and we propose, as noted in section 5, that premises in scope of the USO are limited to those which do not already have or are unlikely to have available to them under planned commercial or publicly funded roll outs a connection which meets the proposed USO specification.

In terms of retail competition, if the Universal Service Provider has market power, there may be scope for Ofcom to impose SMP based wholesale access obligations and associated charge controls to promote effective retail competition.

Ofcom's technical advice provides a discussion of market distortions which were raised as part of their call for inputs and potential mitigations. This can be found in section 10 of their technical advice to government.¹⁴

Question 13 - Do the measures proposed by government sufficiently minimise the risk of market distortion?

¹⁴https://www.ofcom.org.uk/_data/assets/pdf_file/0028/95581/final-report.pdf

Section 9 - Designation of the Universal Service Provider(s)

A Universal Service Provider (USP), or providers, will need to be designated and will be required to fulfil all reasonable requests from households and businesses to be connected under the USO.

Designation of USPs is a matter for Ofcom under section 66 of the Communications Act 2003. The Act enables Ofcom to set out the procedure for designation in regulations, and section 66(7) requires that this procedure must be efficient, objective and transparent, and not involve or give rise to undue discrimination against any person.

There are two broad options for provider designation - a competitive process, such as a procurement or a reverse auction, or direct designation under which Ofcom could directly designate a provider, where no provider volunteered to be designated. A key consideration in the choice of options will be the level of interest from the market in becoming a universal service provider.

In response to Ofcom's USO Call for Inputs, the majority of respondents shared Ofcom's preference for a transparent and competitive designation process. However, few industry stakeholders expressed a desire to be designated.

In light of this, Ofcom's USO advice, published in December, explained that they considered that a more restricted process whereby all providers are considered and an appropriate provider chosen, subject to consultation, was more likely than a competitive process which was unlikely to bring forward any interested providers.

Ofcom's advice considered the merits of designating multiple regional Universal Service Providers, and concluded that this was likely to be disproportionate as it would increase costs, lead to a longer implementation process, and create inefficiencies. Their view was there would only be a small number of providers who between them would be capable of meeting reasonable requests to be connected across the UK.

We expect that at least some smaller providers would not be able to operate at the scale required to deliver connections cost efficiently. There is also a further hurdle for smaller providers, since the designated provider would be required to bear the initial costs of deploying networks under the USO, with funding for any net cost burden only being made available retrospectively. We expect it would be very challenging for smaller providers to bear these costs, given the high costs involved in delivering connectivity to hard-to-reach premises, and the numbers of premises we expect to be in scope of the USO. This would be exacerbated if a high number of requests for connections are made in a short period of time, and it is reasonable to expect that there will be high demand for USO connections particularly in its first year of operation - this is not a roll out programme over several years where the pace of delivery can be controlled.

Ofcom indicated that the most efficient outcome may be for BT and KCOM to be designated as universal service providers because they have the most extensive networks and are currently the designated providers for the telephony USO.

The Government is keen to ensure that smaller providers have every opportunity to take part in the delivery of the USO. It is possible that providers may not have come forward previously because they did not know what becoming a USP would involve, as the proposed specification for the USO, and estimates of costs and the number of premises in scope were not available at that time. We would like to understand whether now that more detail is available about the proposed design of the USO whether more providers are interested in being designated.

Question 13 - Has market interest in becoming a Universal Service Provider changed since Ofcom published its Call for Inputs in April 2016?

Section 10 - USO Review

Each year Ofcom's Connected Nations reports on the coverage and take up of broadband connectivity, reporting this by residential and small and medium business premises, in rural and urban areas and across England, Scotland, Wales and Northern Ireland. This can be compared with the availability and take up of broadband services at the date of the implementation of the USO, to track improvements to coverage and take up.

Through the Connected Nations Report Ofcom can highlight any evidence that suggests that the specification of the USO may need to change to take into account changes to consumer behaviour.

The Government's initial USO consultation in March 2016 included a proposal to provide the Secretary of State with a power to direct Ofcom to review the USO to ensure that in future it continues to reflect connectivity needs, including whether the minimum speed needs to be updated as connectivity requirements evolve. The Digital Economy Act 2017 subsequently included two provisions relating to the review of the USO. The first, a general discretionary power allowing the Secretary of State to direct Ofcom to review the broadband USO at any time, after consulting with Ofcom; and the second, a requirement that such a review take place when, on the basis of information published by Ofcom, at least 75% of premises in the UK subscribe to broadband connections or services that provide a download speed of at least 30Mbps.

Ofcom's USO report considered on what basis, and when, the USO should be reviewed. They noted that there were two main mechanisms available to ensure that the USO remains effective:

- Ongoing monitoring to assess the performance and effectiveness of the USO after it has been implemented; and
- A formal review, carried out periodically with a view to changing the technical specification for the USO.

Their report also explained that while it was important for the USO to keep pace with consumers changing needs to ensure that they can participate fully in digital society, the timetable for any review needed alongside this to consider the investment lifecycle of the Universal Service Provider's USO network investments. The report noted that short-term reviews might create inefficiencies and increase costs. One suggestion in Ofcom's USO analysis to address this concern was that the Government might indicate when the first review should take place to provide the Universal Service Provider with more certainty and allowing for a stable period of cost recovery.

We propose asking Ofcom to monitor the USO on an ongoing basis, and to report on implementation progress on an annual basis, through their Connected Nations report, providing a breakdown of USO take-up by residential and small business premises, in rural

and urban areas, across England, Scotland, Wales and Northern Ireland. Their report should also reference changes in connectivity trends which would inform an assessment of when a formal review of the USO should take place.

Ongoing monitoring will help identify when a more formal review of the USO technical specification might be appropriate. Any review would not be limited only to consideration of whether the minimum download or upload speed should be enhanced but would also consider the need for other aspects of the technical specification to be enhanced, such as contention or latency depending on how consumer needs evolve over time. In response to the suggestion that Government might specify when the first review should take place, we consider that it would be premature to decide this now, given the long lead time for implementing the regulatory USO, and how the broadband market might change in the interim.

Question 14 - Do you agree with the proposed monitoring arrangements? If not, how do you think they could be improved on?

Section 11 - Next steps

This consultation will run for 10 weeks until 9 October.

Following consideration of the responses to this consultation, the Government will take a decision on the best route to deliver universal broadband - whether to continue with the regulatory USO, or accept BT's offer to deliver 10Mbps universal broadband.

If a decision is taken to proceed with the regulatory USO, a Universal Service Order, setting out the technical specification for the USO, and any relevant guidance, will be laid in Parliament. This will make clear to Ofcom the parameters in which it must implement the USO.

It will then be for Ofcom to implement the USO in accordance with the Order, and sections 66 to 68 of the Communications Act 2003. Tasks reserved for Ofcom under the legislative framework include:

- Designating the Universal Service Provider(s), this may involve a competitive process;
- Designing any industry funding mechanism; and
- Establishing principles for calculating the net cost of the universal service.

Ofcom's regulatory implementation is expected to take up to two years from when the Government lays its Order to complete. It will involve consultations on draft regulations for the designation of providers, and on implementation options and draft regulations for the industry fund. Ofcom would work to implement the USO as soon as possible.

Once in place the designated Universal Service Providers will then begin to connect households and businesses on reasonable request.

Section 12 - List of questions

BACKGROUND

Question 1 - Do you agree with the future projections of the USO footprint? Do you have any further evidence of commercial or publicly funded rollout during this period which will influence the scale of the footprint?

SPECIFICATION OF THE USO

Question 2 - Are upload speed, contention, latency and data caps the right quality parameters to specify alongside the minimum download speed?

TECHNOLOGIES

Question 3 - Is this assessment of technologies accurate based on current capabilities?

ELIGIBILITY AND REASONABLE COST THRESHOLD

Question 4 - Is £3,400 the right level to set the cost threshold in order to balance the need to extend coverage as far as possible at reasonable cost?

Question 5 - What other factors should be considered when determining eligibility?

Question 6 - Are there any categories of premises which should be ineligible for a USO connection?

Question 7 - do you agree with the assumption on USO demand that has been included in the Impact Assessment (Annex B)?

Question 8 - are the benefits of the USO, as set out and modelled in the Impact Assessment (Annex B), comprehensive and accurate? Do you have any further evidence on the benefits of the USO?

Question 9 - what would be the most effective way to aggregate demand, including how long a period should be allowed for demand aggregation?

Question 10 - should Government provide guidance to Ofcom on demand aggregation?

AFFORDABILITY

Question 11 - Do you agree that uniform pricing for the broadband connection and services should form part of the USO?

MINIMISING MARKET DISTORTION

Question 12 - Do the measures proposed by government sufficiently minimise the risk of market distortion?

DESIGNATION OF THE UNIVERSAL SERVICE PROVIDER(S)

Question 13 - Has market interest in becoming a Universal Service Provider changed since Ofcom published its Call for Inputs in April 2016?

USO REVIEW

Question 14 - Do you agree with the proposed monitoring arrangements? If not, how do you think they could be improved on?

Draft Order – for illustrative purposes only

STATUTORY INSTRUMENTS

2017 No. 0000
ELECTRONIC COMMUNICATIONS

The Electronic Communications (Broadband) (Universal Service)
Order 2017

<i>Made</i>	-	-	-	-	***
<i>Laid before Parliament</i>					***
<i>Coming into force</i>	-		-		***

The Secretary of State makes this Order in exercise of the powers conferred by section 65 of the Communications Act 2003([a]).

The Secretary of State has consulted the Office of Communications and such other persons as she considers appropriate in accordance with section 65(4).

Citation and commencement

1. This Order may be cited as the Electronic Communications (Broadband) (Universal Service) Order 2017 and comes into force on [*date*] 2017.

Broadband universal service obligation

2. The broadband connections and services set out in Schedule 1 must be provided throughout the United Kingdom.

Guidance on matters relating to the broadband universal obligation

3. Guidance on matters relating to the broadband connections and services which must be provided is set out in Schedule 2.

	Name
	Minister of State
Date	Department for Digital, Culture, Media and Sport

[a] 2003 c. 21. Section 65 was amended by the Electronic Communications and Wireless Telegraphy Regulations 2011 (S.I. 2011/1210), the Treaty of Lisbon (Changes in Terminology) Order 2011 (S.I. 2011/1043) and by section 1 of the Digital Economy Act 2017 (2017 c. 30).

SCHEDULE 1

Article 2

Broadband universal service obligation

Broadband connections and services

1. At least one designated universal service provider must meet any reasonable requests by end-users for a broadband connection at a fixed location to a public electronic communications network and for access to publicly available broadband services over that communications network that meets the quality requirements set out in paragraph 3.

Reasonable requests

2. For the purposes of paragraph 1, an end-user's request is reasonable where—

- (a) the fixed location is a residential or business premise;
- (b) a broadband connection which meets the quality requirements set out in paragraph 3 is not available at that premise; and
- (c) it would cost no more than £3,400 for the designated universal service provider to meet the request.

Speed and other characteristics

3. The broadband connection provided under paragraph 1 must be capable of providing—

- (a) a download sync speed of at least 10 megabits per second;
- (b) an upload sync speed of at least 1 megabit per second;
- (c) a contention ratio of 50:1;
- (d) latency that provides a response time sufficient to enable effective use of telephony services; and
- (e) a broadband service which offers data usage of at least 100 gigabytes per month.

SCHEDULE 2

Article 3

Guidance

Pricing

1. The broadband connections and services specified in Schedule 1 should be offered at prices that are—

- (a) affordable for all end-users; and
- (b) uniform throughout the United Kingdom, unless OFCOM has determined that there is clear justification for not doing so.

Demand aggregation

2. Any designated universal service provider must ensure that requests from end-users for a broadband connection are aggregated effectively.

3. The average cost of any aggregated requests should be used to determine eligibility under paragraph 2(c) of Schedule 1.

EXPLANATORY NOTE

(This note is not part of the Order)

This Order ...

A full impact assessment of the effect that this Order will have on the cost of business has been prepared. A copy of this document has been placed in the Library of each House of Parliament and is annexed to the Explanatory Memorandum which is available alongside this Order at www.legislation.gov.uk.