

Planning for Gigabit Delivery in 2021



Foreword by Matt Warman MP, Minister for Digital Infrastructure

As the Minister responsible for broadband, I have the privilege of leading the Government's ambition for digital infrastructure - that agenda is among the most exciting opportunities for growth and security in the UK economy, but connectivity is about so much more than that: it's an engine for better education, better healthcare, for social justice and for human happiness. Delivering it is core to this government's programme.

In line with our levelling up agenda, we want to become a world class leader in digital connectivity. To achieve this we will deliver reliable, long-lasting, gigabit-capable connections, ensuring that they are made widely available across the UK at pace.

The National Infrastructure Strategy outlines how the Government is working with industry to target a minimum of 85% gigabit-capable coverage by 2025. This is a key part of our £5 billion gigabit programme and its 100% target. The 2020 Spending Review sets out the timeline for how the first tranche of the £5 billion we have promised will be made available to industry. The judgment of industry and the Government is that the initial phasing of the spending reflects the maximum that can be delivered in the period up to 2025, but we will continue to work with industry to accelerate that as much as possible.

Our ask of telecoms providers is to demonstrate how they can go faster, while of course maintaining value for public money. We want to work with a broad range of providers on this and make sure that we are able to deliver in even the hardest to reach areas of the country. It is important that we focus the £5 billion gigabit programme on getting as many people, across the whole United Kingdom, connected as quickly as possible. We will use a broad range of interventions to do so, including: vouchers, contracts for public funding and other innovative solutions across all nations of the UK. As we look to accelerate the start of our future schemes, BDUK will continue to work with Local Authorities to support communities and SMEs through gigabit vouchers, providing access to better broadband to many more of the hardest-to-reach communities in rural areas across the UK.

We intend to start the formal procurement process in early 2021. We have designed larger contracts to drive competition among larger network providers and to give the supply chain sufficient certainty to scale up. Targeted smaller contracts will stimulate competition for smaller network providers and drive innovative solutions.

We want to fill a pipeline for these procurements full of opportunities, which target the areas of greatest need and where telecoms providers are best placed to move quickly. We are seeking your expertise and insights to help us shape our first intervention areas for these procurements. It is really important that in this shared endeavour we work collaboratively and quickly. Therefore, you can help us by providing as specific information as you can, as early as you can, so that we can help providers deliver.

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Helping us plan for Gigabit Delivery in 2021

We are asking for your views to help us target delivery of the UK Gigabit Programme, which includes demand led approaches such as Gigabit Broadband Vouchers and the new "outside in" supply side interventions. This document provides context and draft plans for England. In Scotland, Northern Ireland and Wales, the R100 and Stratum and Superfast Phase 3 projects respectively are rolling out large scale superfast contracts which will deliver gigabit capability over the coming years. BDUK will work in partnership with Scotland, Wales and Northern Ireland from early 2021 to develop our plans for "outside in" to complement these contracts and extend gigabit coverage across the UK.

This is a technical consultation document and should be read in this context. We are particularly interested in the views of broadband delivery leads in local authorities on our proposals, and we are requesting specific information and feedback from telecoms providers interested in bidding for subsidy to deliver gigabit capability throughout the UK. As we develop specific proposals with local bodies, we will seek further confirmation of plans. Your feedback will help us to refine our programme to maximise coverage in the harder to reach 20% of the UK by 2025.

The UK Gigabit Programme

The Future Telecoms Infrastructure Review identified that approximately 20% of the country is unlikely to be commercially viable for gigabit-capable network rollout within a reasonable time frame. The Government is therefore ensuring that delivery to these harder to reach parts of the UK takes place in parallel with commercial build. We will deliver this 'outside in' strategy through a multi-intervention UK Gigabit Programme, led by Building Digital UK (BDUK), working in partnership with local authorities and the devolved administrations.

BDUK is already funding gigabit-capable network rollout in harder to reach areas through its existing programmes, the Local Full Fibre Networks, Rural Gigabit Connectivity and Superfast Programmes. In August 2020, BDUK announced that it had supported the provision of gigabit-capable broadband to over half a million homes and businesses since 2018. The Scottish Government has just awarded three contracts under its R100 procurement, providing a huge boost to gigabit. Project Stratum in Northern Ireland will deliver 76,000 premises until December 2023 and in Wales, Superfast Phase 3 will deliver 39,000 premises.

The Government wants to ensure that all areas of the country have access to gigabit-capable broadband as soon as possible. We want to encourage commercial investment and stimulate suppliers to go further, by using subsidies to stretch that commercial investment. We are working with industry to target a minimum of 85% gigabit-capable coverage by 2025 but will seek to accelerate rollout further to get as close to 100% as soon as possible. The Government will continue to implement an ambitious programme of work to remove barriers to broadband deployment and maximise coverage in the hardest to reach areas of the country.

We are investing an unprecedented £5 billion of subsidy to support the deployment of gigabit broadband in the hardest-to-reach areas of the country, including prioritising delivery to those premises without access to superfast broadband (i.e. speeds of at least 30 Mbps).

The recent Spending Review set out the timeline for how the first tranche of £1.2bn we have promised will be made available to industry over 4 years. The commitment to £5bn still stands, and we will accelerate the investment if industry can demonstrate it has the capacity to deliver further and faster.

Your feedback will help us to refine our programme to maximise coverage in the harder to reach 20% of the UK by 2025.

Your input

We want your help to ensure that the correct mix and balance of interventions are used effectively and efficiently to improve Gigabit connectivity across the UK, targeting public funding at those areas that need intervention to support infrastructure upgrades, whilst removing barriers and incentivising commercial investment wherever possible.

We're interested in:

From all:

1) Please provide feedback on the proposed large procurement areas and if proposing any changes provide accompanying rationale. Are the boundaries in the right places? Are the areas the right size - would smaller or larger be better?

We will use this feedback to refine boundaries.

2) Please provide specific proposals for small area procurement bundles, including rationale. Are there smaller areas of the right characteristics (of the right size, including sub-superfast premises and including a blend of more expensive and cheaper premises) which you feel would be suitable for DPS procurements?

When would you ideally like these procurements to start?

We will use this feedback to build more small area procurement bundles where we know there is demand and capability. You can propose small areas anywhere in the UK - even in the areas shown as prospective large procurement areas.

3) Please provide views on how we have constructed the example small (DPS) procurement areas in Annex A, including the way we have selected an intervention area and the use of MSOA/LSOA boundaries. How can we make these bundles as attractive as possible to the market?

We will use feedback to create a repeatable process which can be used to generate interventions for the small (DPS) procurement areas. It's important this process aligns with engineering and commercial objectives.

4) Where do you feel vouchers are a better way to achieve delivery? Please explain the rationale for your answer and whether you think there are strategic improvements we could make to the scheme.

This will help us determine whether areas should be procured, and whether there are any strategic improvements we can make to the voucher scheme.

From prospective bidders:		
5) Which procurements are you most interested in?	We'd like to understand regional preferences and whether you're interested in large, small or both types of procurement. This will help us engage with you and to avoid procurement peaks for individual bidders	
6) When would you like procurements to start and how many areas should we release? What is the maximum number of concurrent large and/or small procurements you could participate in, over what period and why? Are there things we can do to help speed the process up?	areas to procurement and generate a detailed procurement pipeline. It would be useful to understand the rationale for your response.	

We would be pleased to see proposals for any part of the UK and expect to engage with the devolved administrations from early 2021 to plan future interventions.

We have provided a feedback template titled 'nameOIFeedback' to enable you to send comments back to us by Friday 22 January 2021 to bdukconsultations@dcms.gov.uk. Please include your organisation's name in the file's name when you return it to help us identify your response. Please replace 'name' with your organisation's name.

If you are proposing changes to the large area procurements, please provide an Excel file showing clearly which exchange codes you are proposing to add or remove from the relevant lot/s. If you are submitting maps for small areas, please submit in geopackage (.gpkg) format. Geopackage format is preferred, but if this format is not available, we can process Shapefiles (.shp).

Specific feedback is better

Specific feedback helps us because it is easier for us to act on – so a response which proposes very specific boundaries for a procurement is more useful than a general principle. It is in both our and your interest to be as open and clear in your responses – we want a process which both encourages the most bidders and delivers Government priorities.

We will be contacting all telecoms providers who have registered with us separately to seek national Open Market Review information (commercial build plans) at a premises level to ensure that we structure the procurements to avoid areas where the market is already planning to build in the next three years. You don't need to comment on this using the spreadsheet.

What will we do with the information?

We will use your input to refine these proposals so that we can go to market in the Spring of next year with procurements which are attractive to network providers and coordinated with other gigabit initiatives. We will publish revised maps and a procurement pipeline in the light of the feedback we receive.

UK Gigabit Programme - What we are planning:

Vouchers

Following the success of the Gigabit Broadband Voucher Scheme, we're keen that we continue voucher-supported delivery during 2021, supporting telecoms providers' gigabit deployments while we procure new contracts. Vouchers are available now in the areas we wish to target, and so provide an immediate route to support gigabit delivery.

We are encouraging suppliers under the scheme to build more and larger contiguous areas with the vouchers in ways which are complementary to other interventions and offer best value. The voucher team will continue to work with suppliers and communities to transition smoothly from the current to the new voucher and is looking to improve awareness and information available to end customers about the Scheme.

We are particularly interested to hear if you have any proposals to use vouchers on a larger scale. Some local authorities may also consider proposals involving top-up funding to supplement the national voucher scheme so that specific premises can be targeted. Suppliers who wish to talk to our voucher team about their future plans should contact BDUKsuppliers@dcms.gov.uk.

Public Sector Hubs

The procurement of connectivity services in the public sector can help to drive the availability of gigabit infrastructure and services into the hardest to reach parts of the UK. We have successfully helped procure a number of Public Sector Hubs in remote areas.

We have set up a Dynamic Purchasing System (RM6095) with Crown Commercial Services for Gigabit Capable Connectivity and now have 38 suppliers fully registered. Local authorities and devolved administrations are procuring services from the DPS, working with the supplier market to reduce barriers for the commercial sector to deliver gigabit services to the hardest to reach areas. We expect many other government departments and authorities to participate in regional procurements, with 100-200+ hubs sites expected in each regional procurement. As well as facilitating greater delivery of public services online, we estimate these hub sites will have c.30 premises passed with little incremental cost and c.200 addressable premises within 250-300 metres and so provide a platform for suppliers to extend connectivity in these local communities.

The hubs programme remains highly active, with over £50m of future work in the pipeline.

Superfast Broadband Programme

The Superfast Broadband Programme has been delivering to premises with sub-30Mbps connectivity since 2011, and successfully achieved 95% superfast coverage by December 2017. A pivot of the programme in 2018 has meant that the contracts now favour – and

overwhelmingly now deliver - gigabit-capable technologies, with more than 390,000 FTTP connections delivered by the end of 2019.

Local Authorities and Devolved Administrations are continuing to carry out new procurements, concluding in December this year, and negotiate additional coverage. In Scotland the R100 procurement has just been awarded and in Northern Ireland, the Stratum procurement has just concluded. In Wales, work is underway on Phase 3 superfast build.

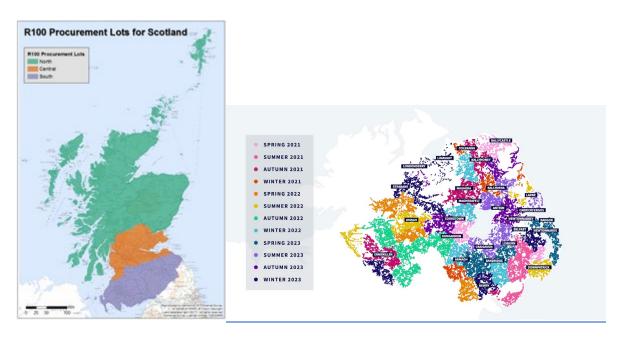


Figure 1: Scotland procurement map

Figure 2: Northern Ireland implementation plans

We will continue to support Local Authorities and Devolved Administrations with procurements which are underway and anticipate Outside In will be used for any new procurements.

Outside In Procurements

DCMS is looking to allocate funding via a competitive procurement process through a supply side market intervention programme, currently known as 'Outside In'. This mechanism will launch in 2021 and will build on lessons from the Superfast Programme.

We have developed our procurement approach in the light of market feedback to support a range of telecoms provider capabilities and specialisms.

Two types of procurement are planned which can be used to target gigabit deployment anywhere in the UK:

1. Contracts for c1,000-8,000 premises to stimulate competition across a wider range of (typically rural specialist) telecoms providers. These will be procured via a Dynamic Purchasing System (DPS), specific for this programme.

2. Larger regional contracts for c40,000-80,000 premises will be procured via a restricted procedure with thresholds for selection. These contracts will be designed to deliver connections at pace in areas where commercial investment is likely but subsidy will be required to complete delivery to the whole area. In each, the successful telecoms provider will maximise connections to improve speeds for those with less than 30 Mbps and minimise the number with less than 30 Mbps. We expect competition in each area among larger telecoms providers planning commercial investment in the area, extending commercial deployment and giving the supply-chain sufficient certainty to scale up.

Our aim is to commence these procurements rapidly and to release as many opportunities as we can as soon as we can, so network providers can get started and use all available capacity. With the benefit of your feedback on this consultation, we expect to launch initial procurements by Spring 2021.

We are also exploring how we could procure a small number of very large frameworks for areas where competition is less likely, potentially on a regional basis. These frameworks could help to ensure that gigabit capability can be delivered to all areas - even those where there is limited prospect of competition, delivering at pace and targeting areas where less than 30Mbps broadband is available. Agreements will include additional requirements on suppliers to evidence efficiency and value for money arising from larger scale contracts offering suppliers certainty of scale, over longer periods in contiguous areas.

The implementation of gigabit-capable broadband is a huge engineering job, and the multistranded delivery strategy ensures that BDUK maximises opportunities for network providers to deliver to meet local priorities. New procurements will work alongside superfast, voucher and hub deployments, providing a flexible and agile way to target gigabit deployment. Local authorities and devolved administrations will continue to be involved in coordinating these measures to ensure priority areas are targeted early.

Boundaries for Outside In procurements

Outside In will provide us flexible mechanisms to intervene in all parts of the UK where the market requires subsidy to deliver gigabit capability. We expect that deployment will be a dynamic process - the market, technology and demands will evolve over the coming years and we will learn from initial deployments. This consultation is the first step, and we expect to review our approach regularly to deliver maximum coverage and best value, making sure no area is left behind.

We have developed three categories for Openreach exchange areas, illustrated on the map for England below. As highlighted above, current Superfast procurements are focussed on Scotland, Northern Ireland and Wales. We will engage with the Devolved Administrations to build further on this in early 2021.

The maps are illustrative and currently only highlight areas where there are not large scale contracts, hence there are currently no illustrations for Scotland and Northern Ireland where R100 and Stratum are currently rolling out large scale superfast contracts. BDUK is currently reviewing the superfast coverage in Wales. Supplier feedback on the intervention approach, contract proposals and small intervention areas will also help BDUK to shape similar interventions areas in Scotland, Wales and Northern Ireland that will be discussed with and shaped by the respective authorities across the UK in 2021, to ensure that all areas of the UK are targeted for intervention.

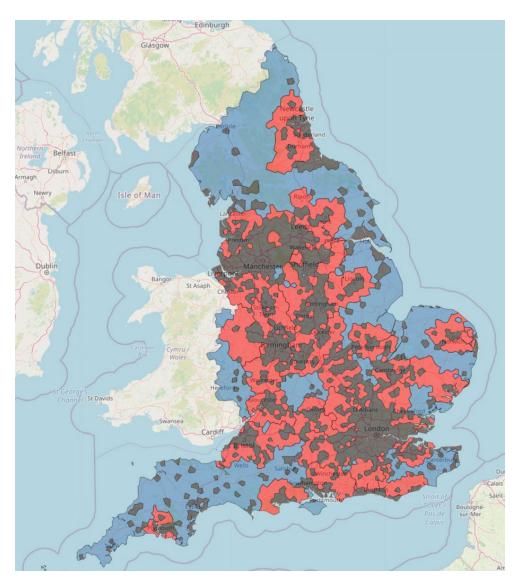


Figure 3: England Procurement Area Map

Our approach differs in each of these areas. The map shows:

- Red Areas: Large Contract procurement areas. We have highlighted 26 large coloured areas (formed by combining whole Openreach exchange areas¹) which we expect will be attractive to larger suppliers planning significant commercial investment, where they can combine build-out with adjacent commercial deployments. These typically comprise 40,000-80,000 premises where gigabit would otherwise not be expected to be delivered.
- Blue Areas: Small procurement areas. We have illustrated on the map areas of c. 1,000-8,000 premises where gigabit is not already expected to be delivered by the market. The small procurement areas illustrated lie outside the large procurement areas, but we can also carve out small procurement areas from the larger areas where this offers best value. The illustrative areas on the map are unlikely to be the exact areas procured they illustrate the scale and distribution of small procurement areas.

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¹ Market feedback for larger procurements is that Openreach exchange areas form appropriate boundaries for commercial reasons. Smaller procurements may not coincide with Openreach exchange boundaries

- Your feedback will help us to refine these areas to match local priorities and market preferences.
- **Grey Areas: Forecast build.** Areas which already have gigabit coverage or are expected to be delivered commercially or by Openreach as part of its 3.2m premises commitment². We will shortly be asking all telecoms providers to submit commercial build plans to us to enable us to refine this data and these areas may well change at that stage.

Annex A provides more information on these maps, and we have separately attached other formats which will be more appropriate for analysis and reference. Annex A also includes:

- DPS procurement worked examples. We have described potential small area
 procurement bundles suitable for procurement through the DPS. Unlike the small
 procurement areas map which shows a simple division of the map into potential
 c1,000-8,000 premises areas, the worked examples have been designed to be
 representative of actual DPS procurement call-offs.
- Superfast deployments. For information, we have also included a map showing the pipeline of future deployments under Superfast Broadband contracts. Superfast deployment will continue for some time, predominantly using existing funding.

You may recognise gigabit deployments which are complete, planned or underway in many of the areas shown for intervention on the maps.

These areas are included because, based on the information we have, we do not expect that the planned deployments will provide complete gigabit coverage. Intervention is therefore still likely to be required to complete implementation. We will schedule this new intervention to follow once other deployments are complete and the Open Market Review and Public Review processes will confirm, at a premises level, more detailed plans for intervention to ensure we use public subsidy only where required.

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https://www.openreach.com/news-and-opinion/articles/over-three-million-more-rural-homes-and-businesses-to-get-full-f

Priorities

The toolkit of demand and supply-side interventions can be used to target areas flexibly and maximise gigabit-capable network coverage in the hardest to reach areas of the country - the "Final 20%". Even within the large procurement areas, there will be choices about which subareas are delivered first

We will develop a pipeline for procurement, considering how we:

- 1. prioritise areas that will support delivery to premises without access to superfast broadband (i.e. speeds of at least 30 Mbps).
- 2. prioritise areas where network providers will find it most efficient to build having engaged as many network providers as possible to identify these areas. This makes sense from an engineering and commercial perspective.
- 3. defer areas where there is a high risk that intervention would subsidise delivery that the market would have funded itself in due course. This will include exchange areas where Ofcom is proposing to designate a high proportion of premises in Area 1 or Area 2³. We also expect to defer intervention in Area 3 where the market is expected to deliver almost all premises or where Openreach plans to deliver fibre and spread the costs of investment across a wider group of consumers under new Ofcom regulations. Where our Open Market Review process identifies commercial build plans, we will not intervene.

Annex B provides information on how we have assessed whether any exchange area is expected to be prioritised, de-prioritised or deferred.

Our aim is to build across all areas of the UK whenever possible. Where a network provider is still delivering a superfast contract, we expect to sequence the implementation of new outside in contracts to follow the completion of gigabit-capable broadband upgrades under the superfast programme, rather than deliver concurrently in a particular area. We will engage with local authorities to ensure that we also consider economic development priorities such as business parks or key employment sites.

We will not intervene in areas that already have gigabit-capable networks or are expected to receive an upgrade either through existing commercial/government plans or because the area is commercially viable.

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³ <u>https://www.ofcom.org.uk/consultations-and-statements/category-1/2021-26-wholesale-fixed-telecoms-market-review</u>

How does this relate to Open Market Review and Public Review processes?

Open Market Reviews provide the opportunity for telecoms providers to tell us about premises that already have Gigabit capable infrastructure or are subject to planned commercial investment in Gigabit capable infrastructure. We use this information to assess premises which are likely to be within reach for commercial investment of Gigabit capable infrastructure, and therefore where we should plan subsidised intervention. The Public Review process offers a formal opportunity for any interested parties to comment on the plans before we commit to build.

Telecoms providers who have participated in superfast procurements and local bodies will be familiar with the Open Market Review and Public Review (formerly called Public Consultation) process. Our approach is similar, but because of the scale and pace of gigabit deployment, we are planning on building and maintaining a rolling, national view of market plans.

We are starting work imminently with all telecoms providers to improve our view of commercial build plans at a premises-level. This is to ensure that we design interventions where there is the greatest need, and where the market has told us it has no plans to build. When we commence procurement, we will specify the requirement in terms of individual premises - not just a geographical area.

We will be releasing a template to capture commercial build plans, pre-populated with Unique Property Reference Numbers (UPRNs) of premises at a national level, so that telecoms providers can let us know where they have already implemented gigabit networks and where they are planning to invest in the next three years. Many suppliers already provide much of this information to Ofcom for their Connected Nations report.

Please do not provide detailed build plans in response to this consultation. We will be aiming to collect commercial build plans from key telecoms providers beginning January 2021 in the data collection template provided at the time, and then refreshing this national view regularly.

We recognise there are many smaller telecoms providers, often operating in small geographic areas and using innovative technologies to provide network connectivity. We are not expecting to gather information on all telecoms providers' commercial build plans in January 2021 (although we will welcome submissions from any telecoms providers). Once we have determined the first areas which will be procured, we will gather more focused market information from all telecoms providers active in those areas. We will undertake formal Public Review processes tailored to each procurement to re-confirm that intervention remains appropriate.

Procurement pipeline

We are constructing procurement mechanisms with capacity to let contracts during 2021 for up to c15 large area contracts and up to c30 small area contracts (number of contracts are subject to change based on emerging data and supplier feedback) with the remainder in following years. We expect to begin both the registration for the Dynamic Purchasing System and selection questionnaire processes to award large contracts in Spring 2021.

Your response to this document will help us determine the pace and sequencing of our procurements. We want to create opportunities for as many telecoms providers to compete for and deliver contracts as soon as possible. We intend to achieve this by targeting the first procurements at areas where there is both the greatest need and confirmed interest from telecoms providers ready to bid and build. Specific feedback on these areas will help us shape the outside in procurements.

Key dates

- December 2020: We are developing Open Market Review templates to enable telecoms providers to tell us about commercial build plans and implementing systems to enable us (or devolved administrations) to collect and collate the data. From this data, we will assess where government intervention and subsidy is likely to be required to deliver gigabit-capable networks. This will be further validated through regional consultation and public review. This process will be maintained on a rolling basis, and before an area or region is announced for any procurement.
- 18 January 2021: Please respond using the template provided to bdukconsultations@dcms.gov.uk.
- February 2021: We are planning regionally-focused events to present and review updated plans for each area. The plans will, by this stage, include a number of DPS procurement areas and finalised large procurement areas. We will also present the order in which we plan to procure, and timings for procurement.
- **Spring 2021**: Launch of Outside In Dynamic Purchasing System. Launch of large procurement process.

Confidentiality

We recognise that the information you provide to us may be commercially sensitive and we ask that you identify clearly where this is the case, and why. We will take reasonable steps to ensure that we maintain commercially confidential information securely.

As a government body, we are subject to legal obligations which may require the release of information under the Freedom of Information Act 2000 or any other applicable legislation or codes of practice governing access to information.

We will process the information you have provided in accordance with all applicable data protection laws, and in the majority of cases, this will mean that your personal information will not be disclosed to third parties.

Annex A - Summary Maps

This annex shows summary versions of maps for large and small procurement areas and areas where we forecast commercial deployment of gigabit based on the information we have. We have also provided spreadsheet and HTML format versions of these maps, which may be more useful for analysis.

The large area boundaries have been drafted following engagement with a number of telecoms providers and local bodies. We have aimed for areas which will stimulate active competition between telecoms providers with capacity to implement at scale. We have also aimed to keep to boundaries between local authorities wherever this is practicable recognising that some large areas will necessarily span boundaries to achieve the right size. We have aimed for at least 40,000 forecast sub-gigabit premises in each large area because the market has fed back that this is the level which makes projects attractive to significant investors. The boundaries are not defined to premises level and we expect revision following Open Market Review.

This annex also includes example small area procurements and a high level map showing planned superfast interventions.

Map showing draft large procurement areas

This map shows draft large area procurement boundaries formed from whole exchange areas. Each large procurement area is shown as a coloured area.

We are interested in whether the boundaries as drawn form a coherent area for intervention and will attract market interest from qualified telecoms providers. We do not, at this stage, need detailed commercial build plan responses - these will be captured through the Open Market Review process.

Please see Annex B for details of the selection of exchanges for the intervention areas we have used for these maps.

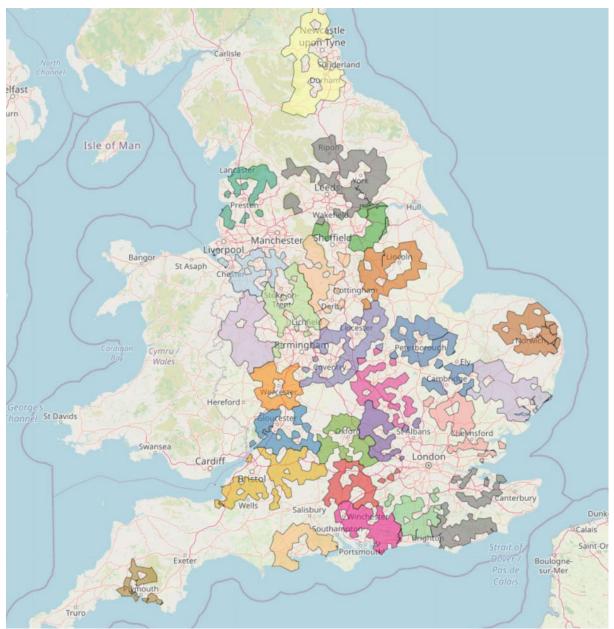


Figure 4: Large procurement area map

Map showing indicative small procurement areas

This map shows, as coloured areas, indicative small areas for procurement of between c.1,000 and c 8,000 premises formed by combining adjacent exchange areas. Please see Annex B for details of the intervention area we have used for these maps.

The boundaries shown in the map are indicative, and we do not expect to procure them. We are interested in your views on how we can construct small procurement areas to extend planned commercial or supported gigabit deployments further. We are happy to consider alternatives to exchange area boundaries such as Middle Layer Super Output Areas (MSOAs) or Lower Layer Super Output Areas (LSOAs).

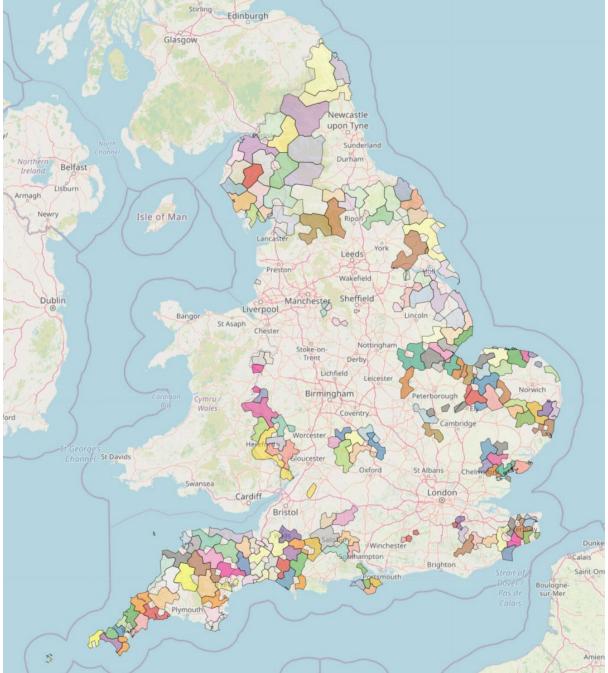


Figure 5: Small procurement area map

Maps showing forecast gigabit coverage

The map below shows areas which already have gigabit coverage or are expected to be delivered commercially or by Openreach as part of its 3.2m premises commitment⁴. We will be asking all telecoms providers to submit commercial build plans to us shortly to enable us to refine this data.

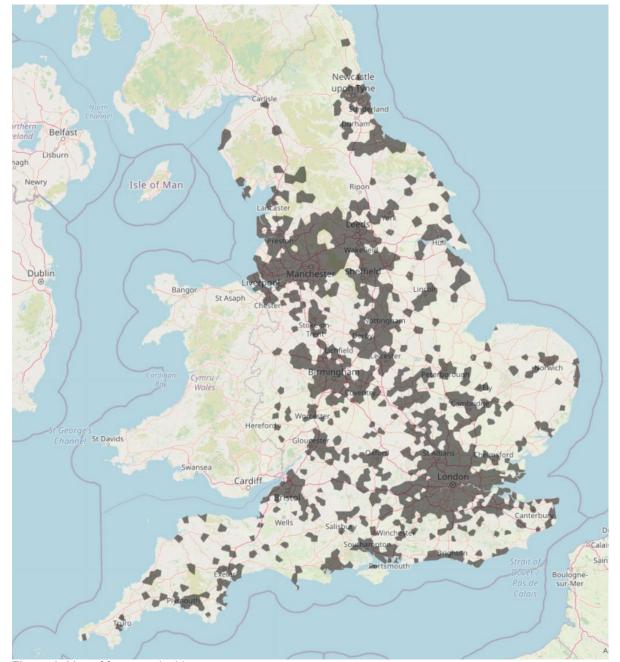


Figure 6: Map of forecast gigabit coverage

https://www.openreach.com/news-and-opinion/articles/over-three-million-more-rural-homes-and-businesses-to-get-full-f

Maps showing superfast deployments

The map below shows "in delivery" deployments under Superfast Broadband contracts. Superfast deployment will continue for some time, using existing funding to deliver gigabit infrastructure in most cases. The dark areas show recent procurements for superfast broadband where we expect detailed information on build shortly.

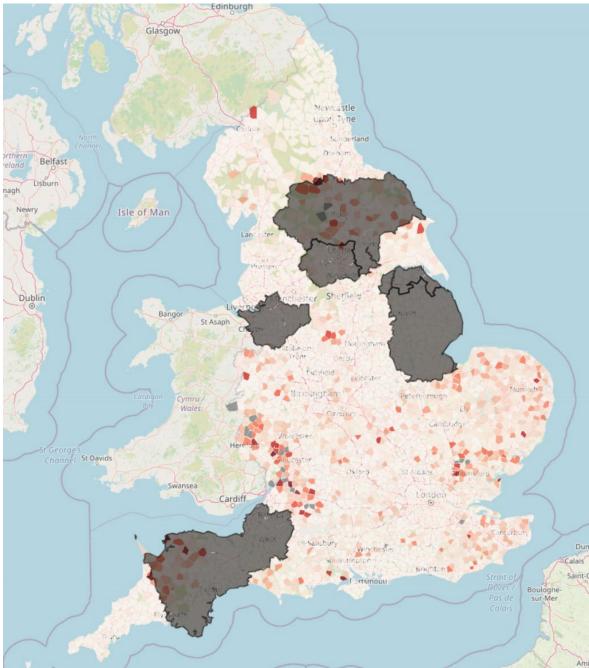


Figure 7: Map of Superfast deployments

Maps showing worked example small procurement areas

The maps below show example small procurement areas. These areas have been selected by working with local authority teams in pilot areas and testing with some suppliers.

The small procurement areas include many sub-superfast premises and a balanced mix of premises which we expect to be cheaper to serve and those which may be more expensive. We have also focused on areas which form natural communities and where we could see how a fibre network could be delivered using roads. This is simply to help us design boundaries for suitable areas: Tenderers will have freedom to design their own networks to deliver gigabit to the required area and will not be constrained to use of the roads or any particular technology. We have used the various levels of Output Areas (MSOAa, LSOAs, OAs) to construct the boundaries.

We have analysed the highways network using the Ordnance Survey (OS) RoadLinks and PathLinks (together referred to as rpLinks below) and computed the distances between each Service Delivery Address (SDA, as defined in the Ofcom Connected Nations Methodology) and the nearest rpLink.

The road or path links are short sections of the highways network typically between junctions and 96% of them are shorter than 300m with less than 200 above 500m in the sample. Hence these have been used to define groups of SDAs that are considered as a service delivery unit.

By aggregating this data we have the length of fibre required to navigate the road and path network to pass each SDA together with the length of the *final drop*, from the SDAs to the nearest road or path. The OS Open Data now available that links each SDA to the road it is accessed from was considered but in many cases it is not the nearest nor the best route to reach an SDA, hence the additional computation in our analysis.

The existing broadband infrastructure has been analysed at rpLink level to estimate the upgrade feasibility and cost to provide Gigabit Capable Infrastructure (GCI) using publicly available data - hence it is currently a simplistic view. This produces the following categories:

1: Available	Ultrafast availability has been reported to Ofcom for some premises on this rpLink
2: Possible	In our assessment, the existing infrastructure is upgradable to GCI on this rpLink
3. Expensive	In our assessment, the cost of upgrading the existing infrastructure may not be commercially justified
4. None	No infrastructure that would be cost effective to upgrade was found
5. Unknown	Insufficient data is available to make the

	assessment
6. No Data	We currently have no information of SDAs on this rpLink, if there are any.

The illustration below provides examples of the classification of rpLinks including *Available* (dark green) in the top left of the image below, *Possible* (light and dark green dashed) on the main road at the bottom of the image below and *Expensive* (red and light green dashed) where it was assessed as borderline commercial on the image below,. The new development (red lines) at the top of the image has no known infrastructure. The status of the road is however, determined as *Available*, because of the premises that are connected to Ultrafast.

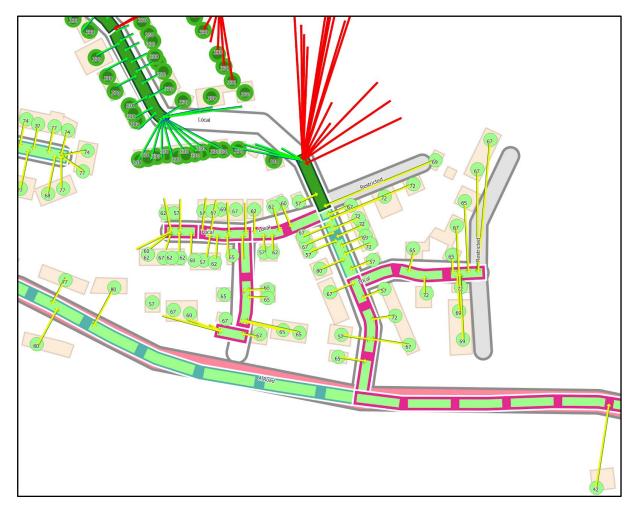


Figure 8: Illustration showing examples of classification of rpLinks

The map below highlights the road network, with dark green lines indicating the availability of existing fibre structures and the oranges highlighting where fibre structures are not currently available. The thickness of the lines is indicative of the density of UPRNs on that route segment using the Ordnance Survey RoadLinks and PathLinks.

The purpose of this image is to illustrate the potential scope and scale of an intervention area and to provide suppliers with quantities of new fibre that may be required to deliver Gigabit capable infrastructure and the potential points of distribution from which new infrastructure could be built. Our view of fibre infrastructure is inferred from publicly available information and will be verified through Open Market Review.

The map gives information on the characteristics of the premises in the area.

We are interested in your views on how we have constructed these example procurement areas, including the way we have selected an intervention area, and if smaller or larger areas would be preferred.

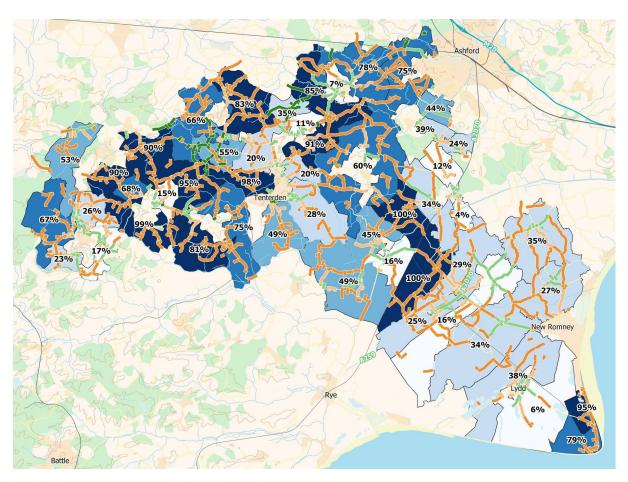


Figure 9: Map providing characteristics of premises in the area

The maps below illustrate the percentage of premises under 30Mbps (Ofcom Connected Nations data) and the road structures that are present in these areas. The weight (thickness) of the orange and green coloured lines are indicative of the number of premises present on those roads.

Colour	Percentage sub 30 Mbps		
Dark Blue	80%-100%		
Mid Blue	60%-80%		
Pale Blue	40%-60%		
Light Blue	20%-40%		
White	0%-20%		

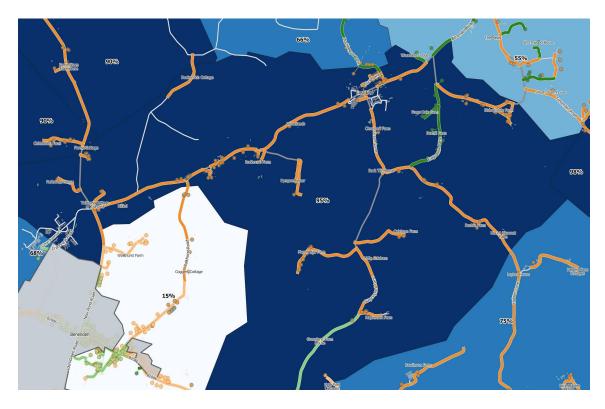


Figure 10: Map 1 showing the percentage of premises under 30Mbps

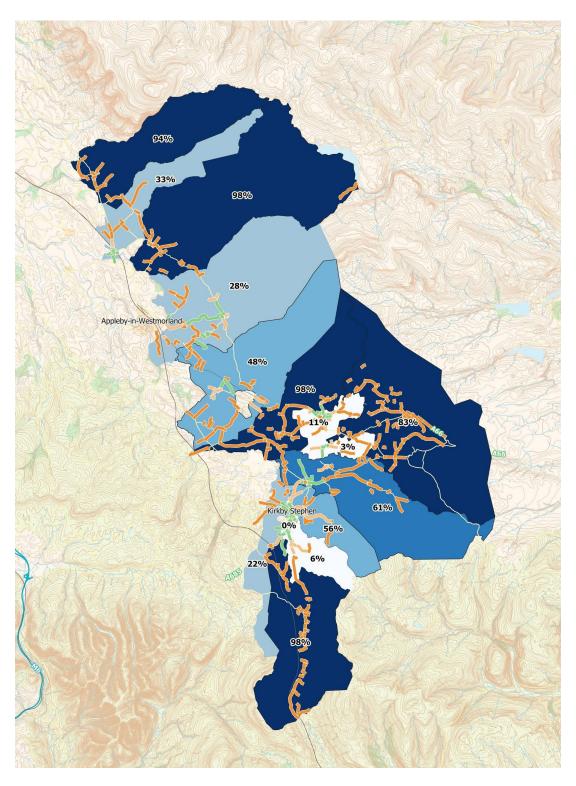


Figure 11: Map 2 showing the percentage of premises under 30Mbps

Annex B - Selection of exchanges within Intervention Areas

The maps in this document show intervention in some areas based on modelling, information we have received from local authorities and information from telecoms providers. We have tried to reflect known market plans on maps, but we recognise there will be some completed or planned deployments missing. Before a decision is made to procure, we will undertake an Open Market Review and Public Review process to establish a premises-level intervention area. This may alter boundaries and the number of premises in the intervention area.

We have used the rules in the table below to assess which Openreach Exchange Areas should be included in the intervention area:

Rule	In scope - priority	In scope	Out of scope
< 25% premises modelled by DCMS as being in the "Final 20%" of premises - the hardest 20% of premises to implement fibre		✓	
< 25% F20 premises forecast to be without fibre		√	
< 25% F20 premises forecast to be without fibre once planned BDUK interventions have completed - including superfast, vouchers and hubs		✓	
≥ 75% premises with Full Fibre implemented, according to Ofcom data			√
Ofcom Area 2 (≥50% of premises in Area 2 postcode sectors according to Ofcom)			√
Open Market Review reveals commercial build plans			√
Openreach announced RAB/Area 3 exchanges			√
Any other exchange	✓		

"In scope - priority" means that, subject to Open Market Review, we expect to intervene in these areas.

"In scope" means that we expect to intervene, but that given the extent of delivery expected, there is a higher probability of commercial delivery. Intervention should be deferred to reduce the risk of public subsidy funding work that would otherwise have been funded by industry.

"Out of scope" means that we believe there is a strong commercial case for delivery without public subsidy. We may still intervene partially in these areas, but we do not expect this will be necessary in the short-medium term. If an exchange area is "out of scope" for any of the reasons set out above, then this will 'trump' other reasons which might otherwise lead to it just being a lower priority (e.g. < 25% F20 premises forecast to be without fibre).

All of these definitions are subject to revision regularly as commercial delivery plans evolve. The exchange shapes used for the maps are modelled, and may not precisely correspond to real Openreach exchange areas. Procurements will be defined in terms of premises, so these boundaries should be viewed as indicative only.