



Department  
for Culture  
Media & Sport

# UK Next Generation Network Infrastructure Deployment Plan

Broadband Delivery UK

March 2015

## **UK Next Generation Network Infrastructure Deployment Plan: March 2015**

### **Introduction**

1. Superfast broadband is a high priority for the Government. Superfast broadband supports business growth and local job creation, particularly in rural areas, and makes it easier for people to get into work by allowing more flexible working patterns. It also enables new ways for people to gain access to health and social care in their homes and provides new opportunities for access to education. People can keep in touch with family and friends more readily and have access to a wide range of entertainment.
2. Currently superfast broadband (giving access to download speeds of more than 24Mbps, which cannot be delivered through previous generation broadband technology) is available to over 80% of UK premises. This has been delivered through commercially funded network development by private sector, together with publicly-funded projects to extend coverage to areas which the commercial coverage will not otherwise reach.
3. Through local projects with Local Authorities and the Devolved Administrations, the public sector is investing over £1.7 billion in improving broadband through the Superfast Broadband Programme. The programme is being delivered in three phases:
  - Phase 1 aims to provide superfast broadband coverage to 90% of UK homes and businesses by early 2016 and provide access to standard broadband (2Mbps) for all. The Phase 1 projects are currently extending coverage to around 40,000 premises per week;
  - Phase 2 aims to provide superfast broadband coverage to 95% of the UK by 2017. The Phase 2 projects are currently in the development and procurement processes; and
  - Phase 3 is testing options to extend superfast broadband coverage beyond 95%.
4. The programme is managed by Broadband Delivery UK (BDUK), part of the Department for Culture, Media and Sport (DCMS).
5. The Government is also supporting business connectivity in cities through provision of connection vouchers to SMEs, as part of the Super-Connected Cities Programme. This programme is also managed by BDUK.
6. The Government's broadband programme also supports the following goals of the Digital Agenda for Europe:
  - the entire EU to be covered by broadband above 30 Mbps by 2020;

- internet speeds of 100 Mbps to half of all households by 2020; and
- 33% of Small and Medium-sized Enterprises (SMEs) to make online sales by 2015.

### **Benefits of superfast broadband**

7. Research carried out on behalf of the Government has identified that its investment will bring significant economic benefits, as well as supporting innovation and greater small business competitiveness<sup>1</sup>. Key findings include that the Government's current programmes provide excellent value for money – with a net economic impact of up to £20 for every £1 of public invested by 2024; long term productivity growth, particularly for small businesses – adding £6.3 billion p.a. to the UK's annual Gross Value Added (GVA) by 2024 as well as 20,000 jobs; helping the spatial rebalancing of the economy – as 89% of the benefits will accrue to areas of the UK other than London and the South East of England; and a short term boost to the economy as network construction will bring an additional economic boost of 35,000 job-years and a short-term gross annual GVA impact that will peak at about £0.5 billion in 2014. In addition, households will be able to make savings of £45 million per year by 2024 through people being able to work from home more than at present, and around 0.4 million tonnes a year of CO<sub>2</sub>e savings will be achieved through reduced commuting, business travel and firms shifting to more energy-efficient cloud computing.
8. The study's authors note that is an unusually high level of return for public funding, but they state that they consider it to be realistic, given that broadband is a General Purpose Technology which has an increasingly critical role in the day-to-day operations of the majority of UK businesses. The Government's interventions are substantially improving the quality of this technology across a significant proportion of the UK, which, in the long term, will benefit hundreds of thousands of businesses, employing millions of people. The bulk of this economic impact comes from improvements in the productivity of broadband-using firms, but there are also significant benefits from safeguarding employment in areas which would otherwise be at an unfair disadvantage, from productivity-enhancing time-savings for teleworkers, and from increased participation in the labour force.

### *Routes to economic impact for superfast broadband*

9. There are various mechanisms through which faster broadband, and publicly funded investment into faster broadband, can lead to economic impacts for the UK. As an infrastructure investment, broadband network deployment produces spillover effects to all sectors of the national economy. The adoption of faster

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<sup>1</sup> SQW – UK Broadband Impact Study – November 2013  
<https://www.gov.uk/government/publications/uk-broadband-impact-study--2>

broadband by firms stimulates further investment in wider Information and Communications Technology (ICT) systems and applications taking advantage of the improved connectivity, and results in business process restructuring, more informed decision making, and productivity gains. Faster broadband also helps to support the creation of new businesses, and the easier access to market information helps to reduce barriers to entry – though this may be at the expense of the decline of more traditional businesses in sectors which are disrupted by the new technology. Continual improvements in broadband service offerings, for both business and consumer markets, stimulate innovation in business models, and this serves to improve overall productivity levels in the economy. Outsourcing of processes and operations is made easier for small businesses, which helps them focus on improving their core strengths while reducing operational costs.

10. The 'routes to impact' which have been identified and included in the model produced as part of the UK's research are as follows:

- **Productivity growth of broadband-using enterprises.** It is now widely accepted that the availability and adoption of affordable broadband plays an important role in increasing productivity in national economies – through, for example, supporting the development of new, more efficient, business models, enabling business process re-engineering to improve the efficiency and management of labour intensive jobs, and enabling increased international trade and collaborative innovation. The model includes estimates of the average increase in the broadband speeds used by businesses each year (by industry group, size band and density decile), and the extent of the associated productivity benefits.
- **Safeguarding of local enterprise employment.** Broadband – and faster broadband in particular – has a complex relationship with employment creation at a *national level*. There appears to be a 'creative destruction' effect at work, in which employment growth may be suppressed to some extent by improvements in business process efficiency (businesses doing more with less), while the better connectivity also leads to employment growth opportunities through new business models and emerging sectors. There is more consensus in the literature, however, that the relative availability and quality of broadband has a significant impact on employment growth at a *local level*: areas with poor broadband lose out to areas with better connectivity. The model assumes that if there were a persistent and widening digital divide, then this local effect would lead to adverse national level impacts over time, as jobs lost or foregone in areas with poor broadband (which might, for example, also have advantages in other respects, such as relatively low accommodation costs or labour costs) would not be entirely replaced by jobs created in areas with good connectivity. Publicly funded intervention, to reduce the digital divide, can therefore help safeguard net employment and the associated GVA at the UK level, as well as at local levels.
- **Teleworker productivity.** As levels of connectivity at home improve, this will tend to encourage higher levels of working from home – the majority of which will

be people working a few days per month from home, rather than teleworking full-time. While some have argued that employees can be inherently more productive when working at home, the model takes a relatively conservative view, assuming that a certain proportion of the time saved by not commuting on a telework-day is spent on work: i.e. adding to the employee's productive hours per day, rather than making those hours more efficient.

- **Labour force participation.** The ability to work from home, using improved levels of connectivity, also reduces the barriers to employment for certain parts of the working age population. In particular, the model has assumed that a proportion of carers (i.e. people who are economically inactive, because they are looking after the home or family members) would be willing and able to take up part-time employment based at home, and that the prevalence of this will increase as levels of home connectivity improve over time. Similarly, it is assumed that a proportion of unemployed disabled people would find it easier to find and retain suitable work if this were based at their own homes (levels of unemployment for disabled people have historically been persistently significantly higher than those for the workforce as a whole) – and again, that the prevalence of this will increase as levels of home connectivity improve over time. Research also shows that, in 2013, rural areas had a higher rate of home working compared with urban. The highest rate of home working was in hamlets and rural areas at 33%, compared with 12% in urban areas<sup>2</sup>.
- **Network construction impacts.** The investment of public funds into faster broadband infrastructure, together with the leveraged private sector investment, itself creates (or safeguards) economic activity in the relevant telcos and their supply chains in the construction phase: e.g. in manufacturing the required additional equipment, undertaking civil engineering for new ducts, installing new fibre cable and cabinets etc. the model generates estimates for the gross employment and GVA effects associated with this activity – though this has been *excluded* from the assessment of the value for money of the intervention, as it is assumed that the public funds could otherwise be used for other construction projects (i.e. there would be 100% 'deadweight' on the construction impacts).

11. Taken together, it is estimated that the net increases in Gross Value Added for the UK, attributable to faster broadband speeds since 2008, will increase to £17 billion per year by 2024. Of this, approximately £6.3 billion per year can be attributed to phase 1 of the Government's Superfast Broadband Programme. Further significant impacts can be expected from Phase 2 and Phase 3. There therefore remains an excellent economic case for further investment in the roll-out of superfast broadband in the UK.

### Removing barriers to private sector investment

12. Given the benefits of superfast broadband, the Government is implementing a range of measures to facilitate private investment by helping reduce the cost and speed up broadband deployment.

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<sup>2</sup> : <https://www.gov.uk/government/statistics/statistical-digest-of-rural-england-2013>

## *Planning*

13. In 2013 the Government introduced changes to the planning system in England through primary and secondary legislation. The requirement to seek planning authority approval for the siting and appearance of broadband cabinets was removed in all protected areas, except for Sites of Special Scientific Interest (SSSIs). Secondly, the requirement to underground new telecommunications lines was removed, allowing new poles and overhead lines to be deployed in all areas (again, except SSSIs). These relaxations run to April 2018. Government will review the effectiveness of the changes early in the next Parliament to determine whether they should be made permanent.
14. The Government also brought forward a substantial package of planning relaxations in 2013 to support the rollout of superfast mobile broadband by allowing existing masts to be extended and widened in non-protected areas and additional mobile infrastructure to be deployed on existing buildings.

## *Electronic Communications Code*

15. The Government is in the process of reforming the UK Electronic Communications Code, the statutory regime which governs the rights of communications infrastructure providers to deploy and maintain electronic communications infrastructure on private land. It is widely acknowledged that the current Code is out of date and in need of reform. The Government is committed to delivering a modern and rigorous legal framework for the rollout of electronic communications apparatus. A consultation on proposals for reforming the Code was published on 3 March 2015, and runs until 30 April<sup>3</sup>. The Government will then consider the views of consultation respondents and look to reform the Code as soon as possible.

## *EU Directive on measures to reduce the cost of deploying high-speed electronic communications networks*

16. The UK is assessing the steps it needs to take to implement the EU Directive on measures to reduce the cost of deploying high-speed electronic communications networks by 1 January 2016. Government will bring forward a consultation on implementation of the directive later this year to address the requirements of the Directive which are not already covered by national legislation. The directive proposes that a voluntary broadband-ready label should apply on to new buildings and apartments with access to high-speed in-house broadband infrastructure. We intend to go further, and are considering options for introducing a connectivity rating for new and existing buildings, so that people can see at a glance how well home and business premises are served for broadband.

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<sup>3</sup> <https://www.gov.uk/government/consultations/consultation-on-reforming-the-electronic-communications-code>

### *Street works*

17. The Government is actively encouraging at the adoption of a range of innovative approaches in street works, particularly where deployment methods such as narrow trenching and the use of approved materials like foamed concrete, have the effect of lowering costs and speeding up deployment of superfast broadband. The Government is also encouraging local highway authorities to work collaboratively with infrastructure providers to help expedite broadband roll out.

### **Public sector investment to support superfast broadband**

18. The private sector can be expected to invest in areas where it can make a positive return on its investment, in other words, where the Net Present Value of the expected revenue from potential customers exceeds the capital investment costs and ongoing operating costs. Where this is not the case, private sector investment will not go ahead.
19. Currently no Local Authority area in the UK is expected to reach 100% coverage through private sector investment alone. In particular, the cost of infrastructure deployment in hard to reach and remote areas are significantly higher than in easier to reach areas. In addition, the costs of deploying superfast broadband to areas with relatively few users, often including business parks and other areas with predominantly business users, often outweigh the potential revenues, yet the economic benefits from providing further coverage can be very high.
20. This is because there are economic, social and environmental benefits from superfast broadband which are not reflected in the revenues that are available to the private sector. The difference arises because broadband is a network infrastructure and the benefits to users are not captured in the revenues that are available to suppliers. Government intervention is aimed at tackling this market failure.
21. The Government's support for further broadband roll-out is largely provided through the Superfast Broadband Programme. Phase 1 of the programme aims to provide superfast broadband coverage to 90% of UK homes and businesses by early 2016 and provide access to standard broadband (2Mbps) for all. It is being delivered through 44 local broadband projects which are all currently in delivery. These projects are managed by Local Authorities in England and the Devolved Administrations in Scotland, Wales and Northern Ireland. The Government has provided funding of £530m and other public funding from local and European funding sources takes the total public subsidy to about £1.2 billion.
22. Phase 2 aims to extend superfast coverage further to 95% of the UK by December 2017. This is being delivered through approximately 47 local projects,

again, with local partners. The Government's funding of £250m subject to match funding to give total public funding of £500m. Currently 15 projects have entered into delivery contracts and the remainder are in the procurement process. A number of the phase 2 projects still need match funding commitments to be put in place, including through local and European funding sources.

23. The superfast broadband contracts include a commitment to ensure universal availability of speeds of at least 2Mbps. In Budget 2015 the Government announced that premises with speeds below 2Mbps and with no alternative solution available will have the option of a satellite solution which can give them access to speeds above this level, including the option of superfast speeds.

24. The Phase 1 projects and current proposed Phase 2 projects are listed in the table below (note: final Phase 2 projects will depend on funding and outcomes of procurement processes).

<b>Project</b>	<b>Phase</b>	<b>Website</b>
Berkshire Councils	P1 & 2	<a href="http://www.superfastberkshire.org.uk/">http://www.superfastberkshire.org.uk/</a>
Black Country	P2	<a href="http://www.blackcountrylep.co.uk/place/broadband-plan">http://www.blackcountrylep.co.uk/place/broadband-plan</a>
Buckinghamshire and Hertfordshire	P1 & 2	<a href="http://www.connectedcounties.org/home">http://www.connectedcounties.org/home</a>
Cambridgeshire, Peterborough	P1 & 2	<a href="http://www.connectingcambridgeshire.co.uk/">http://www.connectingcambridgeshire.co.uk/</a>
Bedfordshire & Milton Keynes	P1 & 2	<a href="http://www.bedford.gov.uk/business/business_support_and_advice/broadband.aspx">http://www.bedford.gov.uk/business/business_support_and_advice/broadband.aspx</a>
Cheshire	P1 & 2	<a href="http://www.connectingcheshire.org.uk/">http://www.connectingcheshire.org.uk/</a>
Cornwall	P2	<a href="http://www.superfastcornwall.org/">http://www.superfastcornwall.org/</a>
Coventry, Solihull, Warwickshire	P1 & 2	<a href="http://cswbroadband.org.uk/">http://cswbroadband.org.uk/</a>
Cumbria	P1 & 2	<a href="http://www.connectingcumbria.org/">http://www.connectingcumbria.org/</a>
Derbyshire	P1 & 2	<a href="http://www.digitalderbyshire.org.uk/">http://www.digitalderbyshire.org.uk/</a>
Devon & Somerset	P1 & 2	<a href="http://www.connectingdevonandsomerset.co.uk/">http://www.connectingdevonandsomerset.co.uk/</a>
Dorset, Bournemouth and Poole	P1 & 2	<a href="http://www.dorsetforyou.com/superfast">http://www.dorsetforyou.com/superfast</a>
Durham	P1 & 2	<a href="http://www.digitaldurham.org/">http://www.digitaldurham.org/</a>
East Riding of Yorkshire	P1 & 2	<a href="http://broadband.eastriding.gov.uk/">http://broadband.eastriding.gov.uk/</a>
East Sussex, Brighton and Hove	P1 & 2	<a href="http://www.esussex.org/">http://www.esussex.org/</a>
Essex, Southend-On-Sea, Thurrock	P1 & 2	<a href="http://www.superfastessex.org/Home.aspx">http://www.superfastessex.org/Home.aspx</a>
Greater Manchester	P1 & 2	<a href="http://www.get-digital-faster.info/home">http://www.get-digital-faster.info/home</a>

Hampshire	P1 & 2	<a href="http://www.hampshiresuperfastbroadband.com">http://www.hampshiresuperfastbroadband.com</a>
Herefordshire and Gloucestershire	P1 & 2	<a href="http://www.fastershire.com/homepage">http://www.fastershire.com/homepage</a>
Highlands and Islands	P1 & 2	<a href="http://www.digitalscotland.org/superfast-broadband/">http://www.digitalscotland.org/superfast-broadband/</a>
Isle of Wight	P1	<a href="http://www.iwight.com/council/OtherServices/Superfast-Broadband/Superfast-Broadband-for-the-Isle-of-Wight">http://www.iwight.com/council/OtherServices/Superfast-Broadband/Superfast-Broadband-for-the-Isle-of-Wight</a>
Kent and Medway	P1 & 2	<a href="http://www.kent.gov.uk/leisure-and-community/broadband">http://www.kent.gov.uk/leisure-and-community/broadband</a>
Lancashire	P1 & 2	<a href="https://www.superfastlancashire.com/home">https://www.superfastlancashire.com/home</a>
Leicestershire	P1 & 2	<a href="http://www.superfastleicestershire.org.uk/">http://www.superfastleicestershire.org.uk/</a>
Lincolnshire	P1 & 2	<a href="http://www.onlincolnshire.org/">http://www.onlincolnshire.org/</a>
Merseyside	P1 & 2	<a href="http://www.merseysideconnected.org/">http://www.merseysideconnected.org/</a>
Newcastle upon Tyne	P1	<a href="http://www.godigitalnewcastle.co.uk/">http://www.godigitalnewcastle.co.uk/</a>
Norfolk	P1 & 2	<a href="http://www.betterbroadbandnorfolk.co.uk/">http://www.betterbroadbandnorfolk.co.uk/</a>
North Lincolnshire, North East Lincolnshire	P1 & 2	<a href="http://www.investinnorthlincolnshire.co.uk/business-support/broadband-project/">http://www.investinnorthlincolnshire.co.uk/business-support/broadband-project/</a>
North Yorkshire	P1 & 2	<a href="http://www.superfastnorthyorkshire.com/home">http://www.superfastnorthyorkshire.com/home</a>
Northamptonshire	P1 & 2	<a href="http://superfastnorthamptonshire.net/">http://superfastnorthamptonshire.net/</a>
Northern Ireland	P1 & 2	<a href="http://nibroadband.com/">http://nibroadband.com/</a>
Northumberland	P1 & 2	<a href="http://www.inorthumberland.org.uk/">http://www.inorthumberland.org.uk/</a>
Nottinghamshire	P1 & 2	<a href="http://www.nottinghamshire.gov.uk/living/business/broadband/">http://www.nottinghamshire.gov.uk/living/business/broadband/</a>

Oxfordshire	P1 & 2	<a href="http://www.betterbroadbandoxfordshire.org.uk/">http://www.betterbroadbandoxfordshire.org.uk/</a>
Rest of Scotland	P1 & 2	<a href="http://www.digitalscotland.org/superfast-broadband/">http://www.digitalscotland.org/superfast-broadband/</a>
Rutland	P1 & 2	<a href="http://www.rutland.gov.uk/digital_rutland.aspx">http://www.rutland.gov.uk/digital_rutland.aspx</a>
Shropshire	P1 & 2	<a href="http://connectingshropshire.co.uk/">http://connectingshropshire.co.uk/</a>
South Yorkshire	P2	<a href="http://sheffieldcityregion.org.uk/syprojects/sy broadband/">http://sheffieldcityregion.org.uk/syprojects/sy broadband/</a>
Staffordshire and Stoke-on-Trent	P1 & 2	<a href="http://www.superfaststaffordshire.co.uk">http://www.superfaststaffordshire.co.uk</a>
Suffolk	P1 & 2	<a href="http://www.betterbroadbandsuffolk.com/">http://www.betterbroadbandsuffolk.com/</a>
Surrey	P1	<a href="http://www.superfastsurrey.org.uk/">http://www.superfastsurrey.org.uk/</a>
Swindon	P2	<a href="http://www.swindon.gov.uk/cd/cd-consultations/cd-consultations-current/Pages/bu-superfastbroadband.aspx">http://www.swindon.gov.uk/cd/cd-consultations/cd-consultations-current/Pages/bu-superfastbroadband.aspx</a>
Telford & Wrekin	P2	<a href="http://www.telford.gov.uk/info/200116/websites/1900/superfast_telford">http://www.telford.gov.uk/info/200116/websites/1900/superfast_telford</a>
Wales	P1 & 2	<a href="http://www.superfast-cymru.com/home">http://www.superfast-cymru.com/home</a>
West Sussex	P1 & 2	<a href="http://www.westsussex-betterconnected.org.uk/home">http://www.westsussex-betterconnected.org.uk/home</a>
West Yorkshire	P1 & 2	<a href="http://www.superfastwestyorkshire.co.uk/">http://www.superfastwestyorkshire.co.uk/</a>
Wiltshire, South Gloucestershire	P1 & 2	<a href="http://www.wiltshire.gov.uk/wiltshireonline/">http://www.wiltshire.gov.uk/wiltshireonline/</a>
Worcestershire	P1 & 2	<a href="http://www.superfastworcestershire.com/home">http://www.superfastworcestershire.com/home</a>

25. In addition, the Government has provided support to a number of local community projects through the Rural Community Broadband Fund (RCBF, now closed) delivered as part of the Rural Development Programme for England 2007-2013. Five community projects have gained funding directly through RCBF, as set out below, and a further 17 communities have had commitments of funding to be provided through extensions to the existing Local Authority projects.

<b>RCBF Projects</b>	<b>Website</b>
Fell End	<a href="http://www.ravenstonedale.org/features/fellendbroadband.htm">http://www.ravenstonedale.org/features/fellendbroadband.htm</a>
Fibre Garden	<a href="http://www.digitaldales.com/">http://www.digitaldales.com/</a>
Northmoor	<a href="http://northmoorbroadband.co.uk/">http://northmoorbroadband.co.uk/</a>
Rothbury	<a href="http://www.inorthumberland.org.uk/2013/12/superfast-broadband-comes-to-rothbury/">http://www.inorthumberland.org.uk/2013/12/superfast-broadband-comes-to-rothbury/</a>
Tove Valley	<a href="http://www.tovevalley.com/">http://www.tovevalley.com/</a>

26. Phase 3 of the Superfast Broadband Programme is currently exploring alternative ways to deliver superfast broadband in commercially challenging areas which are not covered by other programmes. Seven pilot projects are trialling solutions for rolling out in the hardest to reach areas. These pilots take account of the conclusions from BDUK's market engagement in 2013 which found that such areas may need solutions with different technology and operating models than those used to roll-out to the rest of the UK. The suppliers for the pilot projects have published their initial Feasibility Reports<sup>4</sup>.

27. The pilots will run until March 2016, and there will be periodic lessons learned updates over the next year. The Government will consider the economic and social case for further government action depending on the outcome of these projects, and other feedback gained from suppliers.

28. The Department for Environment, Food and Rural Affairs (Defra) is also making further support available to broadband projects in areas not covered by current programmes using funding from the Growth Programme as part of the Rural Development Programme for England 2014-20, under the European Fund for Agricultural Fund for Rural Development (EAFRD). It is expected that Local Enterprise Partnerships (LEPs) will lead on coordinating proposals for funding, which may come from Local Authorities or local communities or business groups.

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<sup>4</sup> <https://www.gov.uk/government/publications/superfast-broadband-programme-phase-3>

## Approach to programme delivery

29. The Government's approach to delivery of the Superfast Broadband Programme is summarised in the BDUK Programme Delivery Model<sup>5</sup>.
30. The Government takes a technology neutral approach to provision of superfast broadband networks. This means that any technologies can be used to deliver solutions, provided they meet the performance standards that are set. The UK's commercial networks are largely provided through cable networks and through Fibre to the Cabinet (FTTC) solutions. FTTC is currently the main technology being used to extend coverage through publicly-funded projects but other technologies including Fibre to the Premises (FTTP), wireless, and satellite could also have roles to play.
31. Regarding investment models for publicly-funded projects, the European Commission has set out four alternative models in its Guide to High-Speed Broadband Investment<sup>6</sup>:
- Direct investment: the publicly run municipal network model (also known as public design build and operate, though it can include public / private partnership elements);
  - Indirect investment: the privately run municipal network model (also known as public outsourcing, or concession model)
  - Support of community-led initiatives: the community broadband model; and
  - Operator subsidy (also known as gap-funding or private design build and operate).
32. Most projects which have gone ahead in the UK have used the gap funding model, whereby the public sector procures broadband infrastructure services from a private sector supplier through a service contract. The public funding provides a subsidy to make the investment viable to the supplier, who also provides its own investment funding. The public funding should be to the level necessary to make the investment cost-effective to the supplier, but no further. Compared to other funding models, this approach has the benefit of reducing the public cost and transferring risk to the private sector, as the supplier will only generate returns on its investment once it has installed the network and established a customer base.

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<sup>5</sup> <https://www.gov.uk/government/publications/broadband-delivery-programme-delivery-model-september-2011>

<sup>6</sup> <http://ec.europa.eu/digital-agenda/en/news/broadband-investment-guide>

33. The Government is also willing to consider other investment approaches. Whichever route is taken, it is important to be mindful of the risks involved in funding, implementing and operating a broadband network. The gap funding approach has the benefit of transferring risks in implementation and operation to a private sector supplier, while suitable gain-share mechanisms also allow under-spends in installation or revenues from additional take-up to be shared between the public and private sector funders. The earlier Digital Region project in South Yorkshire used a public/private partnership model, but has now ceased to operate as it did not generate sufficient revenues to cover operating costs.
34. All broadband projects seeking to use government funding are assessed against criteria which include the following:
- The supplier will need to ensure the availability of wholesale services to minimum service levels (including the end-to-end infrastructure) to a specified number of premises in the area;
  - The supplier will need to ensure the availability of affordable residential and business offerings from retail Internet Service Providers, accessed through an open wholesale platform;
  - The supplier will need to ensure the availability of benchmarked standard backhaul and open wholesale access products;
  - The supplier will need to ensure minimum and recognisable quality standards are met in order to maximise the chance of takeover and the ongoing continuity of service should a network operator fail or seek to exit the market;
  - The level of public sector subsidy will be fixed in the contract and payable at points upon assured completion of the network offering availability at the required service levels, in order to transfer design, integration and delivery risk to the private sector;
  - The level of public sector subsidy may assume a base level of take-up, in order to transfer the market success risk;
  - The supplier will provide sufficient financial transparency such that excess subsidy to create a sustainable business case can be recovered through claw-back (e.g. higher than anticipated take-up);
  - The suppliers' wholesale pricing are to be under benchmarking and / or other price controls for at least 7 years to ensure a monopoly provider position is not unduly exploited; and
  - The broadband solutions are to be commercially sustainable after the initial implementation stage, i.e. to not require ongoing public subsidy.

35. Project proposers also need to demonstrate that there will be robust project management in place including mechanisms to ensure value for money and financial regularity and propriety during delivery.
36. BDUK has a comprehensive project assurance system to ensure that projects with Government funding meet the above criteria. Projects are only given agreement to enter into a contract – and a commitment of government funding – once the following have been confirmed via the BDUK projects assurance process:
- Proposed contract is fit for purpose.
  - BDUK Grant Agreement for the project is compliant with standard template and aligned to draft contract.
  - Robust project management arrangements are in place.
  - Sufficient funding is in place (local and BDUK grant, subject to State Aid) to pay for committed milestones.
  - There is an appropriate allocation of risk between the public and private sectors.
  - Project demonstrates that it is consistent with EU State aid rules.
  - State aid obligations are reflected in the draft contract.
  - Draft contract includes key payment delivery milestones.
  - The supplier that has provided the Most Economically Advantageous Tender in a procurement process has been identified using robust evaluation criteria.
  - The outcome of the project offers value for money for public spend.
  - Appropriate audit arrangements in place.
  - Contract management capability and capacity is available and funded.
  - Key delivery risks identified and being managed.
  - Correct financial treatment and controls applied.
37. Projects seeking funding from the European Regional Development Fund (ERDF) or the European Agricultural Fund for Rural Development (EAFRD) will also be assessed in relation to the criteria set out in the relevant Operational Programme.

## **EU State aid compliance**

38. All projects with funding from the Government or other public sources will involve State aid. Before these projects can go ahead, State aid clearance must be confirmed. Through BDUK, the Government has in place an umbrella State aid scheme which has been agreed by the European Commission<sup>7</sup>. Public authorities can apply to BDUK directly for confirmation that their broadband projects comply with the terms of the umbrella scheme and are therefore State aid compliant. BDUK has provided extensive guidance for authorities in the UK wishing to ensure State aid compliance for their proposed broadband projects<sup>8</sup>.
39. The current State aid scheme runs to June 2015 and the Government is currently in the process of seeking agreement from the Commission to extend the scheme for a further period.

## **Management of implementation**

40. Local public authorities, usually Local Authorities or the Devolved Administrations, are responsible for management of their local broadband projects. Where projects have government funding, BDUK undertakes six-monthly assurance reviews to ensure delivery is on track and that any risks to delivery are being managed and mitigated as appropriate. Any changes to the government funding, or any significant changes to project scope, require approval by BDUK.
41. BDUK works closely with Local Authorities and the Devolved Administrations to ensure value for money is achieved. This is particularly important given that almost all the contracts to date have been awarded to a single supplier. An open-book accounting process (known as 'Milestone to Cash') has been put in place which gives each local project team complete visibility of network delivery and the costs for each network component. BDUK has this information for all the projects in the programme. BDUK provides extensive support to project teams which includes:
- a standardised assurance approach that directly links each project's deliverables and costs required for these, supported by guidance and checklists;
  - review of key processes and controls that underpin the supplier's key costs, including guidance for local bodies on how to build project management cost forecasts;

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<sup>7</sup> <https://www.gov.uk/government/publications/state-aid-decision-on-the-national-broadband-scheme-for-the-uk>

<sup>8</sup> <https://www.gov.uk/government/publications/state-aid-guidance-overview-of-scheme-and-criteria-for-use>

- visits to all local bodies to assess and support assurance processes;
- regional meetings and regular briefings and clinics which allow BDUK to promote best practice, share knowledge, discuss common issues and to give advice;
- quarterly cost comparison reports for each local project, which compare key measures against the equivalent data from all local bodies (supplemented by BDUK's value-for-money team having individual tailored discussions on these reports).

42. The Major Projects Authority carried out a project assessment review of the Superfast Broadband Programme in autumn 2014. It concluded that: “the ‘Milestone-to-Cash’ process should be disseminated across Whitehall, as appropriate, as an exemplar of best practice”<sup>9</sup>.

43. The National Audit Office memorandum on the Superfast Broadband Programme published on 28 January 2015<sup>10</sup> summarised the cost savings achieved through the programme by September 2014, which at that point amounted to at least £92 million, or 25% less than bid costs.

44. Local Authorities also have an important role in supporting deployment by assisting with issues such as planning, streetworks, and wayleaves. BDUK is working with the Local Authorities and suppliers to ensure dissemination of best practice on these issues.

## Cities

45. In city areas the Government is encouraging investment by the private sector. It is also providing connection vouchers for SMEs to enable them to install high speed broadband connections. Details of the scheme are at <https://www.connectionvouchers.co.uk/superconnected-cities/>. This is a demand-side measure to help businesses gain access to high speed broadband infrastructure, rather than providing support for supply-side infrastructure. Until now there have been 22 cities in the scheme but this number will be extended to 50 cities from April 2015. The scheme is scheduled to run until March 2016.

## Future options for infrastructure development

46. The Government has also been considering longer-term options for development of the communications infrastructure market. In March 2015 the Government published its Digital Communications Infrastructure Strategy<sup>11</sup>, announcing a new ambition that ultrafast broadband of at least 100 Mbps should become available

<sup>9</sup> Major Projects Authority, Project Assessment Review: Broadband portfolio, October 2014.

<sup>10</sup> <http://www.nao.org.uk/report/superfast-rural-broadband-programme-update/>

<sup>11</sup> <https://www.gov.uk/government/publications/the-digital-communications-infrastructure-strategy>

to nearly all UK premises. It also said that the Government will look to raise the Universal Service Obligation (USO) – the legal entitlement to a basic service – from dial up speeds to 5Mbps broadband. This commitment to all goes further than any other country in Europe. Once in place, a USO would mean that consumers gain a legal right to request installation of 5Mbps capable services at an affordable price. The Strategy also contains government commitments to remove barriers to market investment, and reduce legislative and regulatory red tape.

## Take-up

47. Investment in superfast broadband infrastructure is only worthwhile if businesses and consumers take advantage of the opportunities that it offers to them. The UK has a very competitive retail broadband market which has resulted in the highest levels of take-up and usage of the five largest EU Member States, as reported in Ofcom’s European Broadband Scorecard 2014<sup>12</sup>. The UK also has the greatest level of competition (measured by share of the incumbent) at the retail level in the fixed broadband market.

48. Data from Ofcom shows take-up of standard and superfast broadband is currently as follows:

### Take-up of fixed broadband, % of residential premises

	2014	2013
UK	73%	72%
England	73%	73%
Scotland	73%	67%
Wales	69%	63%
Northern Ireland	70%	71%

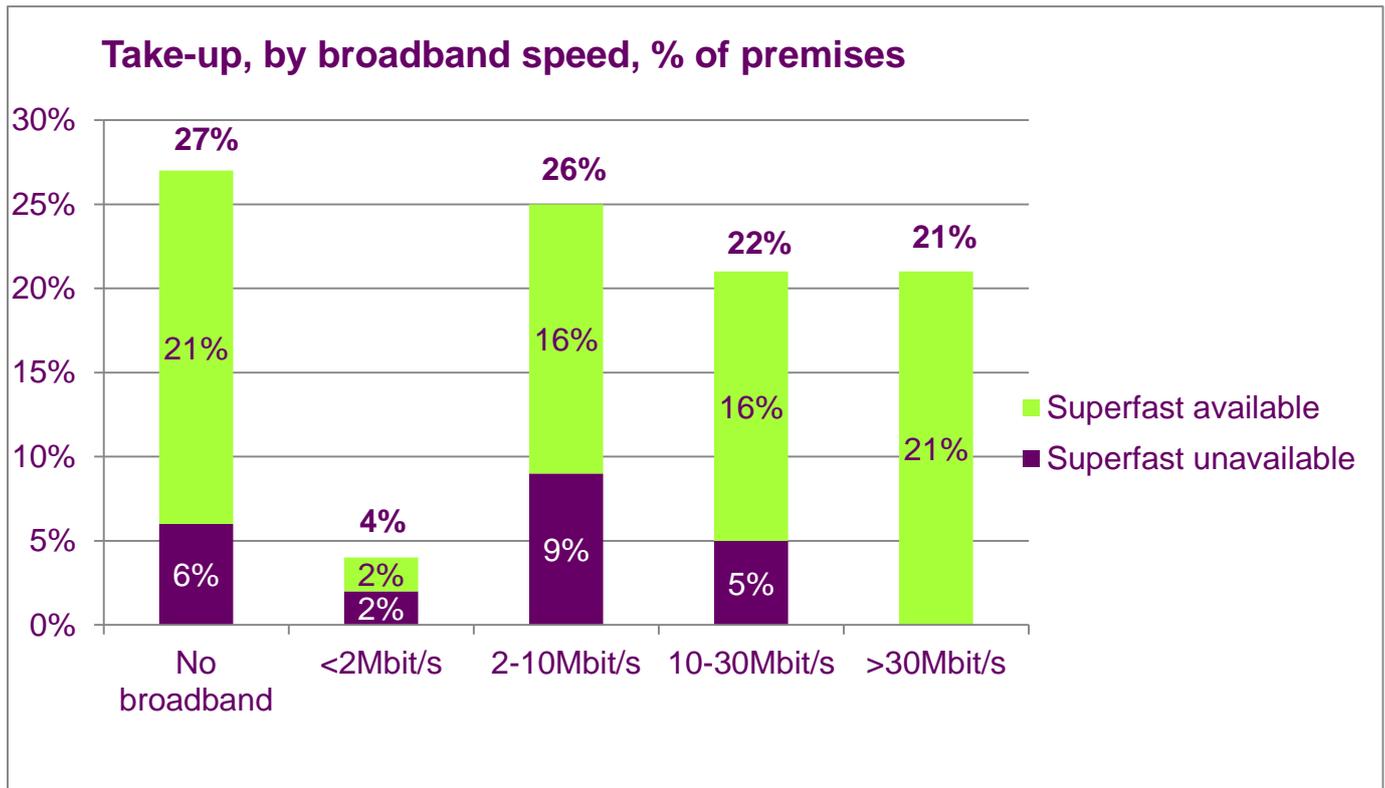
Source: Ofcom, *Communications Market Report 2013 and 2014*

### Take-up of superfast broadband, % of premises

	2014	2013
UK	21%	16%
England	22%	16%
Scotland	16%	13%
Wales	13%	9%
Northern Ireland	22%	19%

Source: Ofcom analysis of operator data

<sup>12</sup> <http://stakeholders.ofcom.org.uk/market-data-research/other/telecoms-research/bbresearch/scorecard-14>



Source: Ofcom analysis of operator data

49. Despite the marketing activity undertaken by the retail service providers, there are still some consumers who are not aware that superfast broadband is available, the benefits it can give them, or what they need to do to access services. The Government is therefore promoting take-up through a number of mechanisms:

- At national level it has undertaken a major marketing campaign to raise consumer awareness of superfast broadband and to provide information on benefits and availability. Consumers are directed to the Government website at [www.gov.uk/gosuperfast](http://www.gov.uk/gosuperfast). This enables them to see whether they currently have coverage and, if not, what the plans are for their area. There is also information on the benefits of superfast broadband for both household and business users;
- Business use of Information and Communications Technology is promoted through the Government's Strategy for the Information Economy<sup>13</sup>;
- Digital inclusion is tackled through the Government Digital Inclusion Strategy<sup>14</sup>.

<sup>13</sup> <https://www.gov.uk/government/publications/information-economy-strategy>

50. As a requirement of government funding, local broadband projects also need to set out how they will promote take-up as part of their Local Broadband Plans. As part of this, local broadband projects which have funding from the European Regional Development Fund also have programmes to promote take-up by SMEs.

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<sup>14</sup> <https://www.gov.uk/government/publications/government-digital-inclusion-strategy/government-digital-inclusion-strategy>