Scrutiny review of Superfast Broadband in East Sussex

Report by the Review Board

of the Economy, Transport and Environment Scrutiny Committee

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Report of the scrutiny review of Superfast Broadband in East Sussex

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Introduction by the Chair of the Review Board

Councillor Richard Stogdon

On 6 March 2012 the Cabinet of East Sussex County Council resolved to spend from its capital budget the sum of £15m in conjunction with Broadband Delivery UK (BDUK) and suppliers to roll out superfast broadband throughout East Sussex.

While the decision of the Cabinet received a broad welcome in the debates at both Cabinet and Full Council, some of the potential difficulties in providing superfast broadband to some of the more remote areas of East Sussex were then noted. At meetings of the Cabinet subsequent to that at which the initial decision was made, the Director of Economy, Transport and Environment referred Members to alternative solutions, which might be required, where roll out of the project was to prove more difficult.

Welcome though the County Council's decision was and indeed remains, by the summer of 2016, a number of issues requiring review had come to the notice of the Economy, Transport and Environment (ET&E) Scrutiny Committee. At its quarterly meeting in March 2016, the Committee received representations from County Councillors for some of the County's rural divisions. The issues requiring review were:

- a) Broadband speeds have not improved for some residents and small businesses, despite being connected to fibre enabled services;
- b) Broadband speeds are slow at peaks times of demand;
- c) Coverage has not reached all residents and premises and some have been left with slow or no broadband:
- d) In a number of cases, the provision of information concerning the timing and availability of superfast broadband to particular premises was not available.

Thereafter, the Committee set up a Scrutiny Review Board to investigate the concerns expressed. The Board has met on six occasions since July 2016 and has taken evidence from a number of County Councillors and other witnesses.

The Board's focus has been to gain a proper understanding of the engineering and technical issues encountered as part of the implementation of the first contract (Contract 1) with BT. It was found that the information contained in Appendix 2 of this report was particularly helpful in assisting the Board's understanding.

As the Scrutiny Review progressed, the extent to which the scope of the Broadband Project had been misunderstood became evident. Both officers and witnesses alike referred to the difficulty in successfully communicating complex technical information to a wide audience, particularly in the context of some of the "hype" surrounding the announcement of the original decision to implement the project.

The Board heard that for some, at least, the expectation was that all premises in the County would be provided with superfast broadband by the time Contract 1 was completed. There were a number of other misconceived expectations referred to in the Report, highlighting the considerable difficulty in communicating complex technical information, without a great deal of officer time and sophisticated resource.

Some County Councillors and other witnesses strongly represented the absolute requirement for fairness and equity concerning the way in which the Broadband project has been implemented. The Board found that criticism relating to the equity principle was and is largely connected with timing. The Board concluded:

- (1) From the outset, the County Council's intention was to provide a greatly improved broadband service to as many premises in the County as possible within the technical, engineering and financial constraints applicable;
- (2) While at the completion of Contract 1, full roll out was not achieved, the intention referred to at (1) above remains the firm ambition of the Council; and

(3) There remains every possibility that full roll out shall be achieved, if not at the conclusion of Contract 2, then, in all probability, at the conclusion of Contract 3, if there is sufficient funding.

It is, of course, desirable that every resident and business in the County should receive the same benefit at the same time under the roll out of the Broadband Project. However, in the context of widely differing conditions obtaining in different areas and divisions of the County, the achievement of parity/equity/fairness is necessarily elusive. For that reason the Board rejected the criticism that the roll out has been "unfair and inequitable". The Board's thinking is that at the completion of Contract 3, concerns relating to equity may well have been significantly dissipated.

Considerable criticism was levelled at the County Council concerning the quality of the information contained on the County Council's website and information provided generally as to "availability" of improved broadband connection by reference to postcodes. It was also suggested that insufficient emphasis had been given to the publication of certain consultations and information relating thereto on the County Council's website. Behind that criticism lay the suggestion that officers had failed to communicate as fully as certain critics would have wished in regard to a wide range of detailed questions.

Against the background of the hugely complimentary evidence provided by other witnesses from both rural and urban divisions of the County regarding the very helpful levels of service and communication provided by the County Council's Officer Team, the Board found the criticism referred to in the preceding paragraph very difficult to reconcile.

The Board heard praise for the professionalism of County Council's officer team from independent witnesses and other sources. Further, the Board found that the roll out of the Broadband project in East Sussex is one of the most successful in Britain. Due to that success it has been possible for the County Council to benefit from "Gainshare" (see paragraph 15) arising from Contract 1, to implement Contract 3. These are achievements not contemplated when the original County Council decision was made.

The advice provided to the Board both by County Council officers and BDUK indicates that at the conclusion of Contract 3, there is every possibility that the County Council's original ambition may well have been achieved.

However that may be, the Board could not fail to be positively impressed:

- (a) by the dedication and professionalism of the very small team of East Sussex County Council officers charged with rolling out the East Sussex Broadband project and
- (b) by the very positive and enthusiastic feedback provided by a number of key witnesses in relation to the success of the project to date. Most particularly, the attention of Members is drawn to the evidence kindly provided to the Board by Sound Architect/ ENGage of Hadlow Down. This was a remarkable contribution, which has relevance for every part of East Sussex.

It is clear from the "Gainshare" achievements under the Contracts that the County Council has enjoyed significant value for money bonuses. The Board considered that it is too early to assess the overall "value for money" impact of the Broadband Project, which remains, as yet, incomplete. Indeed the Board believes it may be some years before the overall value can be properly appraised.

The Review Board is particularly grateful to the Officers of the County Council's Communities Economy & Transport Department, County Councillors and the County Council's Scrutiny team in assisting with the Board's Review.

Councillor Richard Stogdon Chair

Recommendations		Page
1	Further steps are taken to: a. Communicate when faster speeds are available as the project rollout continues; b. Provide additional advice to residents and businesses about checking speeds, selecting an Internet Service Provider (ISP) and information on other factors that affect broadband speeds; and c. Make it easier for residents and businesses to check for themselves the broadband coverage and the speed they can receive.	11
2	Details of coverage, including maps, are published at the end of Contract 2 and further information is provided to explain how and why finite funding levels may prevent the project from enabling superfast broadband access for some harder to reach premises.	14
3	Information is provided at the earliest opportunity outlining those premises that may not be 'connected' to superfast broadband and that the survey results are made available to communities and smaller suppliers to encourage the development of alternative delivery methods.	16
4	Once the total cost of providing superfast broadband to the remaining premises is known (or can be estimated), the Broadband Team clarifies how those premises receiving the slowest speeds will be prioritised in the context of the remaining available budget.	16
5	When, and if necessary, a 'community match' type funding programme is established for communities to bid into to pay for community based broadband schemes, in order to provide access for some of the hardest to reach premises not covered by the project, and a 'toolkit' is developed for communities who wish to implement their own broadband schemes.	16
6	Councillors, business organisations, and Parish Councils are encouraged to contact the Broadband Team with details of any Business Parks that do not have access to superfast broadband, so they can be included in the project rollout.	16
7	Lessons are learnt about the management of expectations when embarking upon complex projects of this nature, and to avoid "hype" at the outset, so that there is a careful distinction between aspirations or vision statements and the actual projected outcomes.	19
8	A phased communication plan is developed to address the expectations of residents and businesses in the County regarding the Broadband Project and recommendations 1, 2 and 3 of the review. The plan should include enhancement of information available, including:	19
	a. A revision of the web site design and information so that project rollout information, frequently asked questions, and other project information is provided more clearly on the Go East Sussex, e-Sussex and ESCC web sites;	
	b. An information pack (including information sources to check speeds, ISP service offers and availability etc.) produced to assist ESCC Councillors, Parish Councils and Community Leaders when dealing with broadband issues in their Division or area; and	
	c. A fact sheet created to address misconceptions about the Broadband Project and some of the frequently asked questions.	

1. Overview

- 1. Before considering the effectiveness of the Broadband Project, it is necessary to understand that:
 - the Project is now embarking on a third phase of delivery where originally only one stage was envisaged; and
 - the aspirations of the programme in terms of both speed and coverage have been updated over this period.
- 2. In 2009 the UK Government announced an intention coupled with funding to move the UK to a better place for broadband services when compared to European neighbours. County Councils up and down the country made enthusiastic commitments to support this aspiration and were encouraged to produce Broadband Development Plans. Many of these aspired to 100% availability of superfast services. East Sussex shared that aspiration. A delivery unit was established within the Department of Media and Sport (BDUK) to establish how this might best be achieved and to manage the allocation of funding. It quickly became apparent that, while significant funding was being promised (circa £1.2billion), this would fall short of the funding required to deliver a superfast service to all premises in the UK. Estimates at the time suggested £20billion would be needed for full coverage, using best available technologies.
- 3. Against this background, a UK-wide target of 90% superfast coverage by 2015 was set and East Sussex County Council embraced that target. The project was set the task of delivering 90% superfast coverage as opposed to previous statements referring to 100% coverage. Moreover, the project was funded to deliver this 90% outcome and not 100%. The impact of this confusion in terms of percentages is fundamental in understanding some of the complaints about equity and fairness and the difficulty in correcting misconceptions regarding what would be achieved by Contract 1.
- 4. It is recommended that lessons are learnt about management of expectations when embarking upon significant projects of this nature. Specific issues have been:
 - Understandable concern with residents and businesses seeking to identify if they are within or outside the 90% coverage areas;
 - An inequality in provision;
- 5. A flexible approach has been needed to ensure best value. It requires permitting the supplier flexibility to substitute cheaper premises where unexpected engineering problems emerge in the delivery stage. The aim of this approach is to build the superfast broadband infrastructure at minimum cost. The downside is the difficulty in telling people if and when they are included in delivery plans, until after the installation work has completed.
- 6. However, this flexible approach has enabled superfast broadband services to a greater number of unserved premises for the least amount of public funding. This ensures that the limited funding goes further, allowing the Broadband Project to connect a maximum number of premises by following an engineering based approach. This has demonstrably worked. Contract 1 with BT (the first phase of the project) was completed on time, and exceeded the coverage targets.

- 7. There is a trade-off between maximising coverage and the provision of robust, publically available information. While the Board noted the concerns expressed about this approach in the course of the Scrutiny Review, it considered that the Officer Team acted reasonably in its application.
- 8. Inequality of service availability is a direct consequence of funding (and affordable technical solutions) to reach 90% superfast coverage before the end of 2015. Fortunately, during Contract 1, Government identified additional funding. This enabled the outcome target for the UK to be revised to 95% coverage by the end 2017. For East Sussex, under Contract 2, this has meant that an additional 7,000 premises will have access to superfast broadband.
- 9. Besides exceeding coverage targets and being completed on time, Contract 1 is exceeding the expected take up levels. This has resulted in around 40% of connected premises choosing to make use of the newly available superfast services. Additional revenue has thereby been generated for the supplier and a proportion returned to the County Council as State Aid clawback and Gainshare.
- 10. The clawback and Gainshare funding is now being invested in a third phase of delivery through Contract 3. Through changes in engineering methods and technology, as close to 100% superfast coverage is being sought. It is not yet clear how close this funding will get to 100% coverage. However, the Board noted that the magnitude of the challenge has been considerably reduced by the open access infrastructure that Contracts 1 and 2 have built in most parts of County. This reflects the underlying strategy of the programme to build fibre infrastructure across the County whenever and wherever possible, rather than relying on alternative technologies.

2. Background

- 11. The UK Government published the Digital Britain Report in June 2009, which set the national policy framework for improving the digital economy. It envisaged that a third of the country, predominately in rural areas, would not have access to superfast broadband (24Mbps or above), if left to market forces alone.
- 12. The Department for Culture, Media and Sport (DCMS) is responsible for the Government's broadband policies. Broadband Delivery UK (BDUK), which is a unit within the Department, runs several programmes to provide superfast broadband and better mobile connectivity in the UK. The Superfast Broadband Programme (formerly the Rural Broadband Programme), is designed to provide superfast broadband across the UK in 3 phases:
 - Phase 1 to extend superfast broadband coverage to 90% of UK premises by December 2016.
 - Phase 2 to extend superfast broadband coverage to 95% of UK premises by December 2017.
 - Phase 3 to test options for rolling out superfast broadband past 95% coverage, with pilot projects completed by March 2016 (no date was set for providing access to the remaining premises).
- 13. East Sussex County Council (ESCC) took up the offer of BDUK funding and developed a combined project with Brighton & Hove City Council. A Local Broadband Plan was agreed by ESCC's Cabinet on 6 March 2012, which included the aspiration of providing superfast broadband to everyone (100% of homes and small business) in East Sussex.
- 14. An Open Market Review (OMR) was undertaken in October 2012 to determine the Intervention Area, in which the Broadband Project would operate. It needs to be carefully noted that the Intervention Area covers the predominantly rural parts of East Sussex, where commercial providers such as British Telecom (BT), Virgin Media etc. were not planning to provide services.
- 15. ESCC used a national framework contract, developed by BDUK, to undertake the work. The contract requires the supplier to provide a network infrastructure that is open access and capable of being used by a number of Internet Service Providers (ISP's). The contracts also contain a "Gainshare" mechanism whereby, if the supplier makes additional income above expected levels, funding is returned by the supplier and retained in the contract for further investment.
- 16. The ESCC Broadband Project is one of 44 across the UK. Three quarters of the projects (75%) used the BDUK framework, whilst 25% of contracts were procured independently, but all first round contracts were signed with BT Group. ESCC has entered into two contracts with BT Group to provide superfast broadband infrastructure:
 - Contract 1 (signed in May 2013) to deliver a 3 year programme of infrastructure improvements funded by ESCC £15m, BDUK £10.64m and BT £4.4m.
 - Contract 2 (signed in June 2015) to deliver an infrastructure programme to provide superfast broadband coverage to a further 5,000 premises (recently increased to 7,000). The work related to this contract is taking place during 2016 and 2017, and is funded by ESCC £3m (re-invested from the first contract) BDUK £3m and BT £265,000.

- 17. At the time of the Cabinet report in March 2012, funding from BDUK had not been announced. It was, therefore, impossible to predict whether or not there would be sufficient funding to provide superfast broadband to 100% of premises in East Sussex.
- 18. When Contract 1 was signed, there were no plans for further contracts (Contract 2 and Contract 3) and coverage was only intended to reach 90% of premises in East Sussex in Phase 1 of the BDUK Superfast Broadband Programme. Given that 100% coverage was merely an aspiration, it is unsurprising that public expectation had interpreted some of the "hype" surrounding initial announcements, as committed goals.
- 19. Councillors and residents expressed concerns centred around broadband speeds and coverage achieved under Contract 1 delivered by BT Openreach, namely:
 - Broadband speeds have not improved for some residents and small businesses, despite being connected to fibre enabled services;
 - Broadband speeds are slow at peaks times of demand;
 - Coverage has not reached all residents and premises and some have been left with slow or no broadband;
 - In a number of cases, provision of information concerning the timing and availability of superfast broadband has been poor and precise information about when or whether superfast broadband will be provided to particular premises is not available.
- 20. The Review Board developed a number of lines of enquiry to explore the issues raised by Councillors and residents. The lines of enquiry reflected in this report are:
 - What has been delivered so far under Contract 1 with BT:
 - Whether the roll out of Contract 2 will address residents' concerns about broadband speeds;
 - Future provision, including and whether there any other measures that can be taken to improve broadband coverage and speeds;
 - Residents' expectations of the project; and
 - Communication about the project.
- 21. In undertaking the review, the Review Board examined the delivery of the first contract (Contract 1) with BT Group to establish if the outcomes specified in the contract had been achieved. The Board took evidence from officers, BT, and an independent technical advisor on the performance of the contracts. The Board also spoke to ESCC Councillors, representatives from community organisations and businesses about the delivery of the project.

3. Broadband Speeds

- 22. The Broadband Project is an infrastructure project, investing in the telephone network, to enable residents and businesses to have access to superfast broadband. The definition of 'connected' means that users have the facility to get faster broadband speeds, when they are physically connected to the fibre enabled telephone network infrastructure. However, it needs to be clearly understood that users have to subscribe to the right package from an Internet Service Provider (ISP) to get faster broadband speeds. Users may also need to subscribe to a different broadband package, if they regularly need to send large data files over the internet (e.g. files containing technical drawings, film, music and other multimedia content).
- 23. The Board heard that network infrastructure built in Contract 1 has been designed with sufficient capacity for peak times of demand (committed data rate). It is often the capacity of the ISP's equipment and network, which is the cause of slower speeds at peak times of demand. Some ISP's also actively restrict speeds in order to manage data traffic on their network. Users' computer networking equipment can also be responsible for slower speeds (e.g. router, WiFi etc.). These are factors outside of the control of the project.
- 24. The actual broadband speed users experience depends on:
 - the type of cabling used to connect them to the telephone network and the distance away from the cabinet if connected using fibre to the cabinet (FTTC);
 - the broadband package the user subscribes to and the capacity of their ISP's network;
 - the nature of the equipment they are using to connect to the internet e.g. router, WiFi, internal wiring, the age of equipment and the currency of the web browser used etc.

It is worth noting that the Broadband Project has control over the first of these issues, but all have an impact on user perceptions.

25. The use of fibre to the cabinet (FTTC) as a method of providing superfast broadband means a fibre optic cable is used to connect the telephone exchange to the cabinet in the street. The existing telephone wires are used to make the final part of the connection between the cabinet and the users' premises. The length of telephone cabling varies, and sometimes the most direct route has not been used. The telephone cable may have joints and other junction boxes in it. These factors affect the eventual broadband speed and reliability that can be achieved due to the natural degradation of signal strength.

- 26. The FTTC method of delivery, proposed by BT, is used because it offers a way of 'connecting' as many premises as possible for the funding available. FTTC typically delivers a speed uplift to superfast (over 24Mbps) for at least 80% of 'connected' premises. A further 10% will see a significant speed increase but not to superfast. The remaining 10% will see a negligible increase. It is unusual for any premises to see a speed reduction. Higher up-lift figures are typically seen in areas where there is a higher density of premises.
- 27. The length and quality of the existing telephone line varies between the FTTC fibre enabled cabinets and premises. This can reduce speeds because broadband speeds become slower with increased length of telephone cabling. Consequently, some premises have not benefited from faster speeds, although they are 'connected' to fibre enabled cabinets, leading to confusion among residents as to whether the project roll out has been successful.

- 28. The Broadband Team confirmed that only those able to access superfast speeds count towards contractual outcomes. The Team is tackling the effect of long lengths of telephone cabling, and providing solutions for those affected. The implementation of the Contract 2 includes installing additional cabinets and rearranging the telephone lines to shorten the length of telephone cabling. Fibre cabling to the premises (FTTP) is also being used to connect some of the more remote, harder to reach properties. The planning and procurement of Contract 3 further addresses these issues.
- 29. Although contract outcomes are measured by the number of properties that can achieve superfast broadband speeds (24 Mbps), many others have benefitted from an increase in broadband speeds below this level.
- 30. The evidence provided to the Board suggests some residents and even businesses are not aware of improved broadband access in their areas. Internet Service Providers (ISP's) have not so far consistently informed potential customers when faster broadband speeds become available. The Broadband Team do not have the resources to notify premises directly when faster speeds are available. Therefore, consideration should be given to finding a way to notify residents when broadband improvements have been completed in their area. Residents and businesses would also benefit from being able to check more easily for themselves, the broadband coverage and the speed they can receive.
- 31. In the past, when the Broadband Team has provided information about service availability, they have received negative feedback from those people who cannot yet access faster broadband. Account has to be taken of popular misconceptions when plans are devised to improve levels of communication in connection with the Broadband Project. Future communication should include a fact sheet to address misconceptions and tailor information so that it addresses the needs of those who do not have superfast broadband, as well as those who have.
- 32. Users need to choose their Internet Service Provider (ISP) carefully and subscribe to the right package in order to achieve the speeds and performance that they require. Actual broadband speeds (as opposed to advertised speeds) and performance at peaks times of demand can very between different providers and the broadband packages they offer. The choice of router, use of WiFi in the home or office, and other factors outside of ESCC's control also contribute to the eventual broadband speed.

Recommendations

The Board recommends that:

- 1. Further steps are taken to:
- a. Communicate when faster speeds are available as the project rollout continues;
- Provide additional advice to residents and businesses about checking speeds, selecting an ISP and information on other factors that affect broadband speeds; and
- c. Make it easier for residents and businesses to check for themselves the broadband coverage and the speed they can receive.

4. Broadband Coverage

Contract 1

- 33. Contract 1 focussed on the provision of superfast broadband to as many premises as possible using BT's delivery method of fibre to the cabinet (FTTC). The Review Board established this approach to be the most cost effective way of improving broadband speeds to the greatest number of premises across East Sussex.
- 34. At the end of Contract 1 (July 2016), 70,443 premises in the Intervention Area (defined in paragraph 14 above) had been physically 'connected' to the fibre enabled telephone network infrastructure by the project, of which 57,755 (82%) had access to superfast speeds. This was 6% more connections than had been planned for in Contract 1, which equates to an additional 3,550 premises. This raises the overall superfast broadband coverage in the County to 90% (made up of existing coverage including ESCC Broadband Project delivery, and planned commercial rollout).
- 35. Contract 1 provided around £20m of public funding to provide additional superfast coverage, over and above the suppliers' commercial plans. This is an average of around £350 per additional superfast premises served. Exceeding this figure as an average in Contract 1 would mean that the target number of premises would not have been reached.
- 36. Some premises are inherently difficult to reach on a cost effective basis. For that reason, a 'premises cap', set for the UK at £1,700, is applied. While that is not an allocation per premises, it is a maximum figure beyond which alternative approaches need to be investigated. Therefore, the project manages expensive premises to 'connect' using a 'premises cap' concept. Residents and businesses need to understand the implications of this, which are that for every premises costing £1,700 to 'connect', a further 9 premises needed to be 'connected' at less than £200 to remain within the contract targets.
- 37. The take up of fibre based services in the Intervention Area has been 40% (as at March 2017) compared with the national average of 30.2% for similar broadband projects. The take up is in excess of the 20% forecast in the business case. The Board heard evidence that the ESCC contract is arguably the second best performing contract of this type nationally in terms of superfast coverage outcomes and represents good value for money.
- 38. If the Broadband Project had not been implemented, 50% of premises in East Sussex would have been left without access to superfast broadband services.

Contract 2

- 39. Contract 2 aims to enable a further 7,000 premises to access superfast services by re-routing telephone cabling and installing more fibre enabled cabinets to reduce the length of telephone cabling connecting premises to the cabinet. It will also use more fibre to the premises (FTTP) as an alternative way to connect properties to the network. This is now commercially more attractive because:
 - It is cheaper to install because of an agreement with power companies that allows the shared use of power supply poles;
 - There now exists a widespread fibre network that was not available before;
 - Higher confidence in levels of end-user service take-up of superfast services.

Project delivery information

- 40. The Board heard evidence that Ofcom require BT Openreach to inform all Internet Service Providers (ISP's) at the same time when new services are available. Currently, rollout information is updated at the end of every quarter at postcode level to comply with this requirement. The Board heard that some residents believe the rollout information on the e-Sussex web site is insufficiently detailed concerning when and where superfast broadband will be available.
- 41. A number of technical and operational difficulties faced on the ground result in either delays, or a need to substitute for easier (cheaper) premises, meaning that it is difficult to be precise about when faster broadband services will be available e.g.
 - The provision of new power supplies needed for the fibre enabled cabinets;
 - Difficulties in obtaining the necessary wayleaves from landowners for new cable routes:
 - Objections to the siting of some of the new cabinets;
 - The condition of existing ducts and cables being unsuitable for use;
 - Inability to share the use of power supply poles to install new fibre cables in Contract 1, thereby making the installation of fibre to the premises unfeasible for widespread use.

The Broadband Project Team have been instrumental in overcoming these operational and technical difficulties.

- 42. The delivery of Contract 1 has achieved and exceeded its objectives (see para 34) and has enabled access to superfast broadband speeds for as many premises as possible, within the funding available. Had the County Council used the fibre to the premises (FTTP) delivery method instead of fibre to the cabinet (FTTC), far fewer premises would have obtained access to superfast broadband speeds. In that context, the Review Board takes the view that the correct policy was pursued in setting the objectives in Contract 1.
- 43. The Review Board found that the broadband coverage delivered by the project in Contract 1 met and exceeded the target for the number of premises enabled to receive superfast broadband. Despite this achievement, there were a number of areas in the county at the end of Contract 1 that did not have access to superfast broadband. At the mid-point of Contract 2 (March 2017) the percentage of premises that had been enabled to access superfast broadband were: Lewes District 92%; Rother District 82%; Wealden District 89%; Eastbourne 98%; Hastings and Rye 94%. However, those who do not have superfast access wish to know when superfast broadband shall become available.
- 44. The Board heard that the Broadband Project had had a positive impact on businesses in East Sussex, increasing productivity, enabling expansion into new areas and improving employment. In general, businesses stated that they found superfast broadband coverage was good across the County (information about the projects such as the Swift Project operated by Sound Architect/Engage can be found in appendix 3).
- 45. Good contract management by the Broadband Team has ensured that value for money and coverage targets have been achieved. However, it has not been possible to provide superfast broadband to some of the hardest to reach premises.

- 46. Evidence from the project rollout tables for Contract 2 indicates that additional premises are able to access superfast broadband speeds. However, due to the technical and operational issues involved in the project, ESCC will not know exactly how many premises will be left without access to superfast speeds until the end of Contract 2 in December 2017, or until a survey is completed as part of Contract 3.
- 47. It is unlikely Contract 2 will resolve all of the concerns raised by residents and Councillors after the completion of Contract 1. The plans for Contract 3 are encouraging, although there is no certainty at this stage of the project that it will be possible provide superfast broadband access to all remaining premises.

Recommendations

The Board recommends that:

2. Details of coverage, including maps, are published at the end of Contract 2 and further information is provided to explain how and why finite funding levels may prevent the project from enabling superfast broadband access for some harder to reach premises.

5. Coverage for remaining premises

Contract 3

- 48. The Board heard that, as part of Contract 3, it should be feasible to examine what may help solve the challenges that exist for the remaining (hard to reach) properties, as there are now fewer of them. It is proposed to include the requirement in Contract 3 to carry out a survey to identify:
 - precisely where the estimated 20,000 remaining properties are located;
 - the nearest network connection point and;
 - an estimate of how much it would cost to provide superfast broadband access to each of the remaining properties.

The provision of this information will enable communication with residents and businesses in relation to the cost and delivery of feasible superfast broadband services.

- 49. The Board also heard that Contract 3 will prioritise those that are experiencing speeds less than 15 Mbps and the service provision to any remaining business parks. The right environment for alternative technologies and smaller suppliers shall be available under Contract 3, although the overall outcomes will still be impacted by a finite level of available funding and the most expensive premises may still need to rely on alternative solutions or funding.
- 50. Identification and location of business parks can be difficult. After considerable effort, the project team has identified only two remaining business parks that are not yet able to order superfast services and these are now planned to be addressed. Given the importance of business connectivity to the local economy, it is recommended that a direct line of communication is established between ESCC Councillors, Parish Councils (or community leaders) and the project team to notify of any business parks that do not yet have connectivity. These will then be prioritised (subject to overall value for money checks) within either the current or subsequent delivery contracts.

51. It may also be possible to develop community based solutions to provide access to superfast broadband for the remaining hard to reach premises. However, the current Broadband Team does not have sufficient staff resources to work on and implement individual community based schemes, which are not part of Contract 3.

Alternative technologies and delivery methods

52. The Board explored a number of alternative technologies and methods to provide access to superfast broadband speeds.

Wireless to the Cabinet

53. BT can deploy this solution, but do not use this technology as part of the current contracts with ESCC, due to the cost of using point to point wireless as part of their delivery method. The Board heard that this could be used in the short term if it is the only option to 'connect' a property.

Satellite

54. There is a government funded voucher scheme offering up to £350 to offset the installation cost of satellite broadband, and other solutions such as wireless, for those premises that cannot receive a basic (2Mbps) broadband service. The Board heard that there have been some technical advances in superfast broadband satellite schemes, which may overcome some of the limitations of satellite and offer a short-term solution for those experiencing slow broadband speeds.

Universal Service Obligation (USO)

55. Government is consulting on the introduction of a Universal Service Obligation (USO) that would require providers to provide a minimum broadband speed of 10Mbps. However, this may be subject to an affordability cap above which subscribers would have to contribute towards the cost of providing the service. This is unlikely to be introduced until 2020 at the earliest, but could provide a way of providing broadband access to premises not covered by the Broadband Project.

Community based solutions

56. There is evidence that residents in areas where there is no superfast broadband provision, are beginning to club together to find alternative solutions to meet their broadband needs. In some cases, approaches are being made to BT's Community Fibre Partnership and options are being explored to pool funding allocated under the subsidised voucher scheme. There are also other providers offering community based solutions.

- 57. The requirement to undertake a survey of the remaining properties without superfast broadband, as part of Contract 3, will enable ESCC to target funding effectively. It will also enable ESCC to be clear about which properties will not have access to superfast broadband at the end of the project. This will enable other providers or community organisations, who may wish to set up projects, to fill gaps in coverage.
- 58. The priorities agreed for Contract 3 will focus on those premises experiencing slower speeds (less than 15Mbps). The Board also observed that the cost will always restrict the number of hard to reach properties that can be given access to superfast broadband.

- 59. In order to address the issue of fairness and equality of access, some match funding may be required for community based solutions for those premises that will not be covered by the project, and where people wish to work together to provide their own solutions. An approach similar to the existing 'community match' scheme could be adopted where ESCC provides some funding towards the cost of provision, matched by contributions from the community. ESCC funding could be provided by using some of the Gainshare income from Contracts 1 and 2 if this proves necessary.
- 60. In order to support community based solutions, ESCC should develop resources such as a toolkit or self-help guide, to help communities who want to implement their own broadband schemes. It will be important to provide information on the technology options available to them (e.g. satellite, fixed WiFi, wireless to the cabinet etc.) and how to go about delivering these solutions.

Recommendations

The Board Recommends that:

- 3. Information is provided at the earliest opportunity outlining those premises that may not be 'connected' to superfast broadband and that the survey results are made available to communities and smaller suppliers to encourage the development of alternative delivery methods.
- 4. Once the total cost of providing superfast broadband to the remaining premises is known (or can be estimated), the Broadband Team clarifies how those premises receiving the slowest speeds will be prioritised in the context of the remaining available budget.
- 5. When, and if necessary, a 'community match' type funding programme is established for communities to bid into to pay for community based broadband schemes, in order to provide access for some of the hardest to reach premises not covered by the project, and a 'toolkit' is developed for communities who wish to implement their own broadband schemes.
- 6. Councillors, business organisations, and Parish Councils are encouraged to contact the Broadband Team with details of any Business Parks that do not have access to superfast broadband, so they can be included the in the project rollout.

6. Residents' Expectations and Project Communications Expectations

- 61. The vision statement contained in the Broadband Plan agreed by ESCC's Cabinet at the beginning of the project stated:
- "Our ultimate vision is for the competitive provision of superfast broadband (both fixed and mobile), offering typical speeds of 100Mbps, to everyone (100% of homes and small businesses) in East Sussex by 2017."
- 62. As many services go on-line, having good broadband speeds is becoming essential to daily living. Many people regard broadband as the fifth utility service. For school children, having decent internet access to complete homework and to carry out research is becoming increasingly important. Most Doctors Surgeries encourage patients to order repeat prescription on-line.

- 63. The Board heard evidence that some residents expected:
 - an automatic upgrade to faster broadband speeds without having to subscribe to faster services; and
 - the project funding would be sufficient to enable all properties in East Sussex to have superfast internet access, no matter how remote they are.
- 64. However, the funding from central government was initially provided to enable 90% of premises *to have access* to superfast broadband under Contact 1. None of the broadband projects nationally, including East Sussex, were given enough funding to provide access to all premises.
- 65. There is also evidence that that there is a perception that the project has finished, when in fact Contract 2 is half way through delivery (as at March 2017) and Contract 3 has not yet started. Consequently, some people are unaware of the steps that are still being taken to increase coverage and speeds.
- 66. The issue of fairness and equality of access for all residents, particularly those living in rural communities, was raised in evidence given by ESCC Councillors. It was put to the Board that some consider it inequitable that the occupiers of some premises are enabled to access superfast broadband while others are not. The Review Board recognises (as indeed the County Council recognised, when the decision was made to provide substantive funding for Contract 1) that the eventual aim of the project would be to enable as many premises in East Sussex to be connected to superfast broadband as possible.
- 67. The Board also noted that 100% coverage is not possible given limited funding and was not an objective of the project at outset. The Board recognises that in the nature of the three Contracts, delivery of broadband access is, of necessity, a staged process because of the technical requirements of the project. However, the eventual achievement of parity has not been ruled out, given the current success of the programme and now increasingly relates to the timing of provision.

- 68. The Board considers there have been a number of misunderstandings and misconceptions about the purpose of the project, which has contributed to unrealistic expectations by the public of what the project can deliver. It also appears that some have misunderstood that they need to subscribe to the right broadband package to get faster speeds.
- 69. The information on the e-Sussex web site, and particularly the rollout information in the News section, addresses people's expectations and common misunderstandings about the project. However, this information is not very prominent and does not explain how the coverage statistics are derived. This may account for why some residents contest the figures and statistics referred to.
- 70. ESCC needs to communicate clearly that:
 - the project may not provide superfast broadband access for all premises with the funding it has available;
 - the project is still ongoing with details of what is being done when:
 - the options available to get better broadband for those who may find themselves without superfast services once the project is completed; and
 - there are other factors that affect broadband speed, beyond the control of the project.

- 71. It is recommended that lessons are learnt about management of expectations when embarking upon significant projects of this nature. Specific issues have been:
 - Understandable concern with residents and businesses seeking to identify if they are within or outside the 90% coverage areas;
 - An inequality in provision;

Project Communications

- 72. The Project Team, with support from the Corporate Communications Team, has:
 - provided communications throughout the Broadband Project; and
 - provided updates on the progress of the project through the internet site and press releases.

The web site contains up to date rollout information on both Contracts delivered by BT Group. The Project Team has also delivered presentations and briefings to various community and business groups.

- 73. The Board heard from representatives of the business community that they were well informed about the Broadband Project and project progress. The quality of the information provided by the Broadband Team was considered very good. However, some considered that once premises were enabled to receive superfast broadband, there was still a need to inform businesses that they have to change broadband package in order to benefit from faster speeds.
- 74. The Board heard that Parishes need to know when and where broadband will be delivered in their area, together with information about the speeds available. Officers explained that information can be provided on where and when broadband will be delivered at post code level on a quarter by quarter basis. However, it is not possible to obtain information on speeds until services are live. Once live, broadband speed information is publicly available from a number of sources (e.g. BT broadband checker, Ofcom broadband app etc.).

- 75. The evidence presented to the Board indicates that there is a need to undertake an additional phase of communication activity now that first contract of the project has been completed. There are a number of communication messages that would help:
 - address expectations about the project;
 - enable residents and businesses to understand what they can do to get faster broadband speeds; and
 - enable better understanding what the project is delivering.
- 76. Councillors have been kept informed about the project delivery. Some Councillors may find it helpful to have an information sheet, or access to other resources about broadband, to assist them with community engagement when dealing with issues in their respective Division.

Recommendations

The Board recommends that:

- 7. Lessons are learnt about the management of expectations when embarking upon complex projects of this nature, and to avoid "hype" at the outset, so that there is a careful distinction between the actual projected outcomes and aspirations or vision statements.
- 8. A phased communications plan is developed to address the expectations of residents and businesses in the County regarding the Broadband Project and recommendations 1, 2 and 3 of the review. The plan should include enhancement of the information available, including:
- a. A revision of the web site design and information so that project rollout information, frequently asked questions, and other project information is provided more clearly on the Go East Sussex, e-Sussex and ESCC web sites;
- b. An information pack (including information sources to check speeds, ISP service offers and etc.) produced to assist ESCC Councillors, Parish Councils and Community Leaders when dealing with broadband issues in their Division or area; and
- c. A fact sheet created to address misconceptions about the Broadband Project and some of the frequently asked questions.

7. Concluding comments

- 77. Overall, the project has achieved good levels of superfast broadband coverage in East Sussex with 90% of premises being enabled to access superfast services. The Broadband Project Team are now planning to exceed this original target through the delivery of the Contract 2 with BT Group and a third procurement underway. Efficient and effective contract management has enabled Gainshare income to be used to fund Contract 3 to provide superfast broadband access to as many of the remaining premises as possible.
- 78. While there may be some concern by those residents and businesses in the County that superfast broadband may not be achieved in their area, it needs to be understood and communicated that the task of superfast broadband provision is being continued by East Sussex County Council. A second phase of communications activity is needed to address expectations, explain the work that is in progress, and the proposed action to increase superfast broadband coverage to as near to 100% as possible.
- 79. There may be a minority of premises, at the end of the project, which will be unable to access superfast broadband. In these circumstances information, advice, and some match funding should be provided to help people to find solutions to meet their broadband needs.

Appendix 1

Scope and terms of reference

The Economy, Transport and Environment Scrutiny Committee understands the important role that broadband, and in particular superfast broadband, plays in developing the economy of East Sussex, in support of one of the County Council's Key Priorities.

The scope of the review is to examine the background to the establishment of the project and what has been achieved so far. The review examined the areas of work to be covered by the Contract 2 delivered by BT Openreach, together with the constraints imposed by the Contracts. The review also examined whether the Contract 2 will address the concerns of residents and businesses.

The review included an examination of the information available about the project and how people find out whether and when they will be able to access superfast broadband services.

Review Board Members

Councillors Richard Stogdon (Chair), Claire Dowling, Michael Pursglove, Pat Rodohan and Barry Taylor

Support to the Board was provided by the following officers:

James Harris, Assistant Director, Economy Katy Thomas, Team Manager Economic Development

Witnesses

Stephen Frith, Independent Advisor to BDUK and ESCC on Broadband

Stephen Edwards, Director, Next Generation Access – BT Commercial

Parish Councils

Jerry Phillips, Isfield Parish Council

Andrew Wedmore, Brightling Parish Council

County Councillors:

Councillor John Barnes

Councillor Angharad Davies

Councillor Kathryn Field

Councillor Roy Galley

Councillor Rupert Simmons, Lead Member for Economy

Councillor Bob Standley

East Sussex Businesses

Chistina Ewbank, Association of Chambers in East Sussex (ACES)

Rachel Lewis, Managing Director, Sound Architect/ ENGage

Jeremy Woolger, President & Chairman, Crowborough & District Chamber of Commerce

Review Board meeting dates

26 July 2016 26 October 2016 11 January 2017 1 February 2017 23 February 2017 1 March 2017

List of evidence papers

Item	Date
ESCC Cabinet papers – reports and minutes	December 2011
ESCC Cabinet papers – reports and minutes	March 2012
ESCC Cabinet papers – reports and minutes	December 2012
ESCC Cabinet papers – reports and minutes	November 2016
The Superfast (Rural) Broadband Programme: update - National Audit Office Memorandum	January 2015
Members Briefing	October 2015
Rural Broadband and digital only services – Environment, Food and Rural Affairs Committee	November 2015
Members Briefing	December 2015
Emerging Findings from the BDUK Market Test Pilots, DCMS	February 2016
Oral evidence to the Culture Media and Sport Select Committee	April 2016
Digital Economy Bill - Queen's Speech	May 2016
New Broadband Universal Service Obligation consultation Summary of responses and Government response, DCMS	May 2016

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Appendix 2 Glossary of Terms

ADSL – Asymmetric Digital Subscriber Line is a type of digital subscriber line (DSL) technology, a data communications technology that enables faster data transmission over copper telephone lines rather than a conventional (voiceband) modem can provide. It is 'asymmetric' because the line is designed to provide faster download speeds (up to 8 Mbps) than upload speeds.

BDUK - Broadband Delivery UK. BDUK is the Government department located within the Department for Culture Media and Sport (DCMS) responsible for delivering superfast broadband and better mobile connectivity for the nation.

Broadband – A high speed internet connection, distinct from the old dial-up internet ('narrowband') which had a maximum speed of 56Kbps. Broadband is not a particular type of technology and there is no one official definition, so in terms of speed it may be classified differently by governments and regulatory bodies across the world.

Cloud / Cloud technology - Cloud computing is a kind of Internet-based computing that provides shared processing resources and data to computers and other devices on demand. Cloud based applications store data and software on remote computer servers ('the cloud'), rather than on an individual's computing devices.

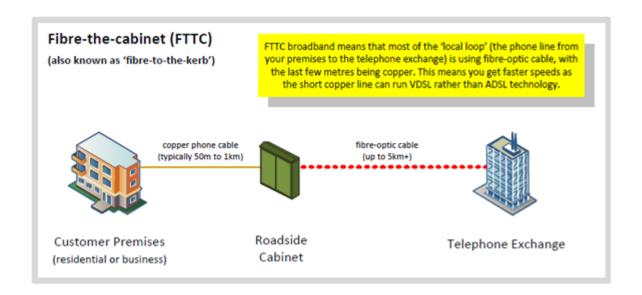
Contention ratio - Your contention ratio tells you the potential maximum demand on your broadband connection from yourself and other customers. Once your broadband signal leaves your home it joins a line connecting your neighbours and others to the web; so the more people using it at once, the slower it can become. A contention ratio of 50:1 (typical for ADSL broadband) means there are up to 50 people on one connection. This is often why you experience slower speeds during peak usage times.

DSL - Digital Subscriber Line. DSL is a wireline transmission technology that transmits data faster over traditional copper telephone lines already installed to homes and businesses. DSL-based broadband provides transmission speeds ranging from several hundred Kbps to millions of bits per second (Mbps).

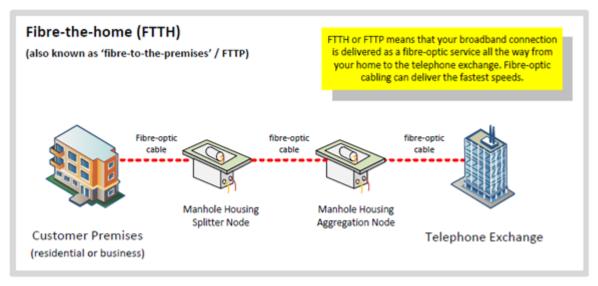
With DSL, a different frequency can be used for digital and analog signals, which means that you can talk on the phone while you upload data. For DSL services, two types of systems exist: Asymmetric Digital Subscriber Line (ADSL) and High-Rate Digital Subscriber Line (HDSL).

FLAN – Fixed Line Access Network. This is the copper cable telephone network originally developed by BT to provide telephone (voice communication) services.

FTTC – Fibre To The Cabinet. A type of broadband service which uses fibre optic cables to street cabinets then regular telephone or cable lines to reach homes. This is cheaper and quicker to deploy, but speeds are more limited than a full fibre solution like <u>FTTH/FTTP</u> (though still much faster than ADSL). If you sign up for fibre broadband now it is most likely to be FTTC, using either the BT Openreach or Virgin Media networks.



FFTP – aka FTTH – Fibre to the Premises/Home - Fibre To The Home/Fibre To The Premises. These are different terms for the same thing: a full fibre optic broadband connection. The connection speed of such a link is far greater than either ADSL or FTTC. Some FTTH services are now available in the UK and offer home users an incredible <u>1Gb</u> speed. Vitally, this is not the limit of fibre so it's a future proof technology.



(Source: Think Broadband.com)

Fixed Wireless – This is a technology used to provide broadband services, particularly in remote or sparsely populated areas. As the term suggests, broadband access is provided by radio signals (or other wireless link) via a transmitter, rather than a cable, in a similar way to public Wifi hot spots.

ISP – Internet Service Provider. ISP's are the commercial companies and organisations that provide internet and broadband services e.g. BT, Virgin, Talk Talk, Plus Net etc.

NGA – Next generation Access. A term used to describe broadband and mobile communication technologies capable of superfast speeds i.e. greater than 24 Mbps.

Satellite broadband. This is where broadband services are provided via a satellite dish, rather than through a cable network. The signal is sent up to a receiving satellite, and therefor there can be some delay (or latency) in the signals being received. This can mean

that satellite services are not so good for streaming films, videos or other high data capacity applications such as on-line video gaming. There is also often a higher charge or cap for data use, compared with cable based solutions.

Speed - Broadband speed is measured in megabits per second, commonly written as Mb or Mbps (as in 24Mb, or 24Mbps). Megabytes (which is shortened to MB, or GB when referring to gigabytes) - ... denote memory capacity and file size, not speed. There are eight bits in a byte, so, if your download speed is eight megabits per second (8Mb), then that's actually shifting 1 megabyte per second (1MB).

It's an important distinction, because file sizes (such as songs, pictures and movie clips) are described in megabytes, as are download allowances.

Superfast Broadband – 'superfast' broadband is any broadband deemed to run at 24Mb or above. This essentially rules out any service running on old BT lines (ADSL) or any mobile broadband up to and including 3G: leaving us in the UK with 4G (potentially), fibre and cable as 'superfast'. The UK government has made a commitment to have superfast broadband available to 95% of the UK by the end of 2017.

USC – Universal Service Commitment / USO – Universal Service Obligation. These terms tend to be used interchangeably to refer to the minimum statutory service that broadband providers are required to provide. The current USC/USO is 2Mbps and the Government is currently consulting on proposals in the Digital Economy Bill to raise this to 10Mbps.

For example if a USO of 10 Mbps were to be introduced, BT, Virgin and other providers would have to provide access to broadband services of a minimum speed of 10Mbps. However, this may be subject to a reasonable cost threshold above which subscribers would have to pay for access.

VDSL – Very-high-bit-rate Digital Subscriber Line. A digital subscriber line (DSL) technology providing data transmission speeds faster than an asymmetric digital subscriber line (ADSL). VDSL offers speeds of up to 52 Mbit/s download and 16 Mbit/s upload, over a single flat untwisted or twisted pair of copper wires using the frequency band from 25 kHz to 12 MHz. These rates mean that VDSL is capable of supporting applications such as high-definition television, as well as telephone services (voice over IP) and general Internet access, over a single connection.

4G Mobile Communications. This refers to 'Fourth Generation' mobile telephone networks that are capable of providing superfast or Next Generation Access (i.e. greater than 24Mbps) data services. Hence they are seen as alternative to superfast broadband in areas where there is no fixed line network (copper of fibre).

Appendix 3 The SWIFT Project case study from Sound Architect/ ENGage

The Board heard evidence from Sound Architect / ENGage who are a charity that delivers the Swift Project and other projects that promote digital access.

Full details of their work can be found on their web sites http://www.swiftproject.org.uk/ and www.soundarchitect.org.uk

Some quotes about broadband in East Sussex from Swift Programme participants:

"I have to say that as a potential customer I wasn't particularly looking forward to our Skype session today but I am now feeling very modern and delighted to have been a Swift Skype pioneer." BN

"The Skype technology worked, it was very successful and I think we all got a lot out of it. For me it will never completely replace actual meeting up but I can see it is another very useful tool to use in addition or to replace some face to face meetings." ST

"As a non-digital person at the start of the course, I do feel more confident about trying out things such as social media and I have a much better grasp of how the digital world can affect a small business." AC

"In all reality, we wouldn't have been able to run this project without good Broadband connectivity as a lot of publicity was circulated online, all participant arrangements were made online and in order to run courses on Social Media (our most popular course) it was essentials to have good connectivity." RM Swift Project Manager

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"Extremely interesting and friendly and very easy to understand.

I have found it very relaxing away from my normal day to day life
and thoroughly enjoyed the new learning experience." Participant