RESOURCES AND PERFORMANCE SELECT COMMITTEE

DATE: 18 DECEMBER 2020

BROADBAND IN SURREY UPDATE

Purpose of report: to review, monitor and provide input to the access and improvements to broadband in Surrey

Introduction:

1. The importance that Surrey County Council (The Council) has placed on digital connectivity for the well-being and prosperity of our residents and businesses has been reflected in corporate policies, strategies and investment for more than eight years.

2. *'One County, One Team' Corporate Strategy 2012-2017', 'Confident in Surrey's future', Corporate Strategy 2016-2021'*, '*Surrey 2030 Economic Strategy Statement*, *One Surrey Growth Board 'Plan for Growth'*, '*Surrey Place Ambition 2050*,' '*Surrey's Climate Change Strategy 2020,'*and the emerging '*Surrey Digital Strategy 2025'* have all confirmed Surrey's intention that no one should be left behind in this digital age.

3. Investment in the Superfast Surrey Programme since 2012 has ensured that about 20% of Surrey homes and businesses that had been excluded from commercial broadband upgrade plans now have access to good connectivity.

4. But with the programme ending, and rapid technological changes taking place in all aspects of our society, from transport to climate change, medical advancements to business communications, digital infrastructure to artificial intelligence, combined with a major shift to more agile working, schooling and lifestyle, fast and reliable digital connectivity and greater bandwidth are increasingly being required anytime, anywhere.

5. The Government's *2020 National Infrastructure Strategy* expects the private sector to deliver gigabit-capable broadband to around 80% of premises in the UK and has allocated £5 billion to support gigabit-capable broadband rollout to the hardest to reach areas of the UK.

6. This report provides a summary of what the Superfast Surrey Programme has achieved, current broadband and mobile coverage in Surrey and how Surrey plans to address broadband infrastructure requirements in the gigabit age.

2012-2020: Superfast Surrey

Superfast Surrey Broadband Programme

7. In 2012, following an Open Market Review, the Council established that that approximately 20% of residents and businesses, primarily in more rural areas but also in some towns across Surrey were not included in any commercial rollout plans to provide access to download speeds of 15Mbps or more within the following three years.

8. To address this commercial failure, the Council approved £21.3 million of capital funding for the Superfast Surrey Broadband Programme within the Medium-Term Financial Plan (MFTP) on 7 February 2012. This was partly financed by a £1.3 million grant allocation from Building Digital UK (BDUK), the Government's broadband deployment agency. This allocation included £970,000 for the County's Programme Management Office. This was in addition to BT's Capital and Revenue expenditure.

9. Following an open tender process, BT were awarded the contact to deliver the programme and work began immediately on the main phase of deployment which was completed in 2015.

10. The contract with BT has a 'clawback' mechanism, whereby BT return funding during the contact period when the uptake of broadband services exceeds certain levels. This was designed so that the Council didn't end up funding infrastructure that later became more commercially viable and also so that the 'clawback' could provide additional broadband infrastructure. Any 'clawback' funding is held in a joint investment fund, pending either it's usage or return to The Council. Due to the high level of broadband take up, in 2016 BT offered the Council an advance of £3.9 million clawback and following approval by Cabinet in December 2016, this was used to fund the programme's phase 2 deployment which started in 2017.

11. Phase 2 finishes at the end of December 2020 and based on current projections, all the contractual milestones in relation to speed and coverage will be achieved.

12. Although the programme's contract does not end until 2 April 2023, no further deployment will take place as the contract is based on the European Commission 2012 Broadband Scheme which expired in 2015.

13. More than 90,000 homes and businesses across Surrey have benefitted from download speeds of 15Mbps or more as part of the programme. Of these, more than 74,000 can access superfast download speeds of between 24Mbps and

80Mbps and nearly 10,000 are served by full fibre (FTTP) and can access gigabit (1000Mbps) download speeds.

14. Subject to BDUK's final assurance of the contract expenditure, due by mid-2021, the Council has spent capital funding of approximately £18.3 million thereby underspending its funding allocation by £3 million.

15. There is an additional payment that was not included in the original contract financial assumptions but was included in the contract as a potential cost. This related to an impending decision by OFCOM that reduced the price that Openreach could charge for selling access to their network. As it had an impact on the agreed financial modelling of the contract, it allowed Openreach to recoup any losses from Surrey County Council that were impacted by this decision. The cost has now been confirmed as £203,000 that BT will shortly draw down from the Joint Investment Fund.

16. Of the £3.9 million offered as advance clawback, £3.85 million has been spent on Phase 2 deployment. Additional clawback will continue to accrue for the duration of the contract and be paid to the Council in stages over the next three years.

Current fixed and mobile coverage in Surrey

17. The County is served by a variety of different fixed and mobile (wireless) technologies including ADSL, Fibre to the Cabinet (FTTC), GFast, Full fibre (FTTP/FTTH), Co-axial, DOCSIS, 2G, 3G, 4G and 5G.

18. The two main operators of fixed broadband networks in Surrey are Openreach and Virgin Media. 96.5% of Surrey premises can access a minimum of 30Mbps via the Openreach network and 66.3% can access ultrafast speeds via the Virgin Media Network. There are also a few smaller Alt-Net firms who have installed gigabit infrastructure including Box Broadband, B4SH and Surrey Hills Internet.

19. According to ThinkBroadband, an independent broadband monitoring site, average download speeds in Surrey from fixed broadband are 51Mbps. The County has one of the highest levels of **superfast** (30Mbps+) broadband coverage in England with 98% coverage. 73.1% of Surrey homes and businesses can access 100Mbps+ download speeds. In comparison to England's average of 36.6%, only 16.4% of Surrey premises can access **gigabit** (1000Mbps) download speeds.

20. Table 1 below summarises current fixed broadband coverage across some of the Counties and Unitary Authorities across the south east of England (excluding London). It should be noted that many of these local authorities still

have broadband deployment projects underway which will increase their coverage of gigabit capable infrastructure in the couple of years.

21. 0.44% of Surrey premises are unable to access fixed broadband download speeds of 10Mbps or more. To address residents and business across the UK that fall into this category, the Government implemented the Universal Service Obligation (USO) in March 2020 to provide a legal right to request a connection of 10Mbps or more from BT. The solution that is offered to eligible residents is most likely to be a 4G hub rather than fixed fibre.

Comparison of current coverage of County / Unitiary Authorities in the south of England	Average download speeds (Mbps)	Coverage of 30Mbps or more	Coverage of 100Mbps or more	Virgin Media Cable	Coverage of gigabit (FTTP or DOCSIS 3.1)	Coverage of full fibre (FTTP or FTTH)	Unable to access 10Mbps (Legal USO)
UK	47	96.5%	63.7%	52.5%	35.4%	18.2%	1.41%
England	47	97.1%	65.8%	54.7%	34.6%	17.2%	0.99%
Bedford & Milton Keynes	60	98.6%	81.5%	25.8%	54.2%	54.2%	0.62%
Bedfordshire (Central)	50	97.4%	70.8%	59.0%	12.8%	12.8%	1.00%
Berkshire	53	97.5%	75.1%	62.2%	61.3%	11.6%	0.53%
Bracknell Forest	58	97.6%	65.6%	57.2%	63.0%	7.1%	0.70%
Brighton & Hove	55	99.6%	94.4%	90.4%	2.3%	2.3%	0.05%
Buckinghamshire	42	95.9%	49.7%	33.5%	16.4%	9.3%	1.46%
East Sussex	34	96.6%	14.5%	3.9%	13.3%	13.3%	0.87%
Essex	42	95.9%	47.1%	36.9%	18.8%	13.4%	1.39%
Hampshire	47	96.4%	65.4%	58.1%	15.0%	8.7%	1.35%
Hertfordshire	42	95.9%	47.1%	79.5%	18.8%	13.4%	1.39%
Kent	41	95.1%	52.1%	38.5%	20.1%	16.2%	1.97%
Oxfordshire	49	97.9%	64.2%	43.2%	15.4%	15.4%	0.79%
Reading	61	98.4%	92.3%	85.8%	90.2%	7.1%	0.08%
SURREY	51	98.0%	73.1%	66.3%	16.4%	14.7%	0.44%
West Berkshire	51	98.7%	75.7%	48.1%	70.3%	24.6%	0.22%
West Sussex	40	96.7%	43.7%	33.7%	13.0%	13.0%	0.98%
Windsor and Maidenhead	49	95.7%	53.4%	53.4%	4.6%	4.6%	1.05%
Wokingham	51	96.7%	76.6%	63.7%	63.7%	13.2%	0.67%

Table 1 – Current Coverage across the South East of England. Data taken from Thinkbroadband.com (date 30 November 2020)

22. Table 2 below summarises the current fixed broadband coverage across Surrey's eleven boroughs and districts and confirms that the East of the county is not disadvantaged compared to the West. Average download speeds in all boroughs and districts are 50 Mbps or more except Waverley and Tandridge.

23. Broadband speeds across Surrey are lower where there is no Virgin Media network or other gigabit coverage and where the Openreach superfast network

infrastructure is too far from homes and businesses to be able to provide a good service. This is the case in a few urban areas but is much more prevalent in rural boroughs and districts such as Waverley, Tandridge, Mole Valley and Guildford where homes and businesses can be further away from each other. Fewer premises over a longer distance generally makes it less commercially viable to network operators to consider unless their network is already in the vicinity.

Surrey Boroughs and Districts	Average download speeds	Coverage of 30Mbps+	Coverage of 100Mbps+	Virgin Media Cable	Coverage of gigabit (FTTP or DOCSIS 3.1)	Coverage of full fibre (FTTP or FTTH)	Premises unable to access 10Mbps (Legal USO)
SURREY	51	98.0%	73.1%	66.3%	16.6%	14.8%	0.44%
Elmbridge	54	99.5%	85.4%	79.4%	6.9%	4.2%	0.05%
Epsom & Ewell	68	99.9%	95.3%	84.2%	84.2%	68.3%	0.03%
Guildford	60	97.8%	72.0%	67.6%	3.5%	3.5%	0.46%
Mole Valley	50	96.4%	73.7%	61.2%	12.8%	12.8%	0.88%
Reigate & Banstead	56	98.4%	82.3%	76.6%	24.0%	23.1%	0.30%
Runnymede	51	98.0%	77.4%	72.7%	4.3%	4.3%	0.19%
Spelthorne	54	99.2%	85.4%	79.4%	30.4%	30.4%	0.15%
Surrey Heath	59	99.2%	73.7%	70.6%	8.6%	8.6%	0.20%
Tandridge	43	95.4%	59.7%	46.6%	15.9%	12.7%	1.07%
Waverley	34	95.9%	18.2%	10.1%	7.9%	7.9%	1.03%
Woking	50	98.8%	91.0%	88.1%	2.9%	2.9%	0.44%

Table 2 – Coverage across Surrey's Boroughs and Districts - Data taken from Thinkbroadband.com (date 30 November 2020)

24. According to Ofcom's *Connected Nations Summer 2020 Update Report*, access to indoor 4G coverage by at least one mobile network provider in Boroughs and Districts ranges from 98 to 100%. However, coverage by all providers is between 62% and 96% and there are still between 1 to 2% 'Not Spots' in Guildford, Mole Valley, Runnymede, Tandridge and Waverley where no mobile reception is available.

4G coverage to premises - indoor and outdoor	Indoor by at least one provider	Indoor by all providers	Indoor Not spots	Outdoor by at least one provider	Outdoor by all providers	Outdoor Not spots
England	99%	82%	1%	100%	98%	0%
Elmbridge	100%	94%	0%	100%	100%	0%
Epsom & Ewell	100%	85%	0%	100%	100%	0%
Guildford	99%	77%	1%	100%	98%	0%
Mole Valley	98%	62%	2%	100%	95%	0%

Reigate & Banstead	100%	84%	0%	100%	100%	0%
Runnymede	99%	86%	1%	100%	99%	0%
Spelthorne	100%	96%	0%	100%	100%	0%
Surrey Heath	100%	78%	0%	100%	99%	0%
Tandridge	99%	73%	1%	100%	98%	0%
Waverley	98%	67%	2%	100%	95%	0%
Woking	100%	89%	0%	100%	100%	0%

Table 3 – May 2020 4G Premises -data from Ofcom's *Connected Nations Summer 2020 Update Report*

25. The report also advises that across all roads in the Boroughs and Districts, there is coverage ranging from 94 to 100% by at least one mobile network provider. However, coverage by all providers is considerably lower – between 50 and 96%. In addition, six of the Boroughs and Districts have 'Not Spots' with Mole Valley having the highest percentage at 6%.

4G coverage on roads (in vehicle)	All roads (Motorway, A and B) - by at least one provider	all roads (Motorway, A and B) - by all providers	All roads (Motorway, A and B) Complete 'Not Spot'	Motorway and A roads by at least one provider	Motorway and A roads by all providers	Motorway and A roads Complete 'Not Spot'
England	97%	64%	3%	99%	69%	1%
Elmbridge	100%	87%	0%	100%	88%	0%
Epsom & Ewell	100%	89%	0%	100%	87%	0%
Guildford	98%	65%	2%	99%	71%	1%
Mole Valley	94%	57%	6%	100%	63%	0%
Reigate & Banstead	99%	71%	1%	100%	76%	0%
Runnymede	98%	72%	2%	98%	75%	2%
Spelthorne	97%	55%	5%	100%	98%	0%
Surrey Heath	100%	65%	0%	100%	66%	0%
Tandridge	99%	62%	1%	100%	67%	0%
Waverley	97%	50%	3%	99%	61%	1%
Woking	100%	74%	0%	100%	78%	0%

Table 4 – May 2020 All Roads data taken from Ofcom's *Connected Nations Summer 2020 Update Report*

26. In the case of 5G coverage, fixed fibre and 5G are complementary technologies and fibre networks are needed for 5G capacity, availability and coverage. In the future, 5G download speeds will potentially be up to 20Gbps but will initially range between 80-400 Mbps.

27. In Surrey, parts of Ashford, Banstead, Byfleet, Chipstead, Esher, Epsom, Gatton Bottom, Guildford, Redhill, Staines on Thames, Sunbury, Walton on

Thames and Weybridge already have live 5G Networks from one or more of the following Mobile Network Operators: EE, O2, Three and Vodaphone.

28. Surrey has also benefitted from Government funding for Schools Hubs and Vouchers.

- Eight Surrey schools in rural communities are benefiting from c£140K of Government funding towards the installation of gigabit infrastructure as part of the Rural Gigabit Connectivity Schools Hubs Scheme.

- Surrey residents and businesses have also benefited from the Government's Gigabit Broadband Vouchers Scheme, which has offered two different vouchers providing government funding of between £500 and £3,500 per premises towards the cost of gigabit capable infrastructure:

    - The first gigabit voucher offered as part of the Local Full Fibre Networks programme, (this scheme is now closed) - connected 717 Surrey premises (primarily businesses) benefiting from £1.27 million of government funding, approximately 170 premises are in the pipeline.

    - The second gigabit voucher for rural communities offered as part of the Rural Gigabit Connectivity programme (which is due to finish at the end of March 2021) - has so far connected 86 premises (homes and SMEs) benefitting from £181,000 of government funding and approximately 150 premises are in the pipeline. In the next few months, the pipeline is likely to increase significantly, as many groups across Surrey are now working with suppliers to access the vouchers following a large postcard Gigabit voucher awareness campaign run by Surrey County Council to more than 45,000 residents at the beginning of September.

The next ten years

Fixed Fibre Network Operator Plans

29. Openreach is continuing to ramp up FTTP deployment in Surrey as part of their commercial rollout plans and are announcing new locations on a fairly regular basis. Locations already announced include Betchworth, Burgh Heath, Egham, Epsom, Ewell, Godalming, Haslemere, Lingfield, Molesey, Sunbury, Thames Ditton and Wentworth. Approximately 80% of the premises served by these exchanges are anticipated to be upgrade to full fibre speeds.

30. Virgin Media has indicated to the Council that in next couple of years it will be upgrading its network from ultrafast to gigabit infrastructure. This will make a

significant difference to the overall coverage of the county as current Virgin Media cable coverage is 66.3%.

31. Alt-Net Operators including Surrey Hills Internet and Broadband for the Surrey Hills (B4SH) are undertaking gigabit deployment in parts of the Surrey Hills and Box Broadband has indicated that in addition to existing deployment activities in Ewhurst and Cranleigh, they have plans to upgrade up to 50,000 homes and businesses in Surrey and West Sussex in the next few years.

Local Enterprise Partnerships - Fixed Fibre Plans

32. Enterprise M3 is planning a £4.5 million investment in a fibre spine from Guildford to Basingstoke with funds from the Getting Building Fund (GBF). The route will pass approximately equally through Hampshire and Surrey and has been designed to connect as many towns, villages and public sector locations as possible. Final design work in now being undertaken to determine the final costs as which point it is anticipated that there will be funding gap that will need to be filled.

Surrey Heath - 5G Plans

33. Surrey Heath Borough Council is working with a consortium of innovative research, retail and technology partners to deliver a ground-breaking open data 5G test bed in Camberley town centre. It is centred on The Square shopping centre and other town centre assets in the ownership of the Borough Council.

Mobile Network Operator Plans

34. The Government's 700MHZ Clearance Programme involved clearance of the airwaves in the 700MHz spectrum band that were being used for Digital Terrestrial Television (DTT) and PMSE (Programme Makers and Special Events) services and is seen as key enabler for 5G and rural mobile coverage. The spectrum will now be auctioned off and will provide nearly 20% more capacity for mobile services.

35. Mobile Network Operators do not usually publicly announce new locations until their infrastructure is in place. However, they are continuing to deploy new and upgrade 4G and 5G infrastructure in Surrey which is monitored by on-line organisations companies such as Kenstechtips.

Government funding and approach

36. The Government has committed to the roll-out of Gigabit capable infrastructure across the UK as soon as possible and expects the private sector to deliver gigabit-capable broadband to around 80% of premises in the UK.

37. To address the remaining 20% of premises, in November 2020, it published the National Infrastructure Study and the Chancellor's Spending Review. The study confirmed that the Government is working with industry to target a minimum of 85% gigabit capable coverage by 2025 but will seek to accelerate roll-out further to get as close to 100% as possible.

38. The Spending Review in November 2020 confirmed the following funding allocations:

- £5 billion to support UK-wide gigabit-capable broadband roll-out to the hardest to reach areas of the UK that was first announced in the March 2020 budget. £1.2 billion of the £5 billion will be allocated over 2020/21 – 2024/25. This funding will be focused on the areas that commercial investment alone will not reach and will use a mix of supply and demand side approaches to support the provision of Gigabit-capable services.

- £50 million of a £250 million allocation is to be spent in 2021 on building a secure and resilient 5G network

- £200 million UK-wide to be spent on continuing digital infrastructure programmes, including the Shared Rural Network for 4G coverage, Local Full Fibre Networks and the 5G Testbeds and Trials Programme

39. In addition, a new £4 billion Levelling Up Fund was announced that will invest in local infrastructure that has a visible impact on people and their communities and will support economic recovery.

Surrey County Council's ambitions and objectives

40. The County's Digital Infrastructure Steering Group, which is chaired by the Council's Deputy Chief Executive and comprises members of staff from key teams across the Council including Economic Development & Prosperity, broadband delivery, Digital Infrastructure, Highways and Integrated Care System teams, has engaged consultants to develop a county-wide Digital Infrastructure Strategy.

41. This strategy is being underpinned by Surrey's stated strategies and objectives including enabling citizens and businesses to effectively access digital public services, facilitating new technologies to create a smart county, addressing social inclusion, playing a part in neutralising the east-west connectivity challenges for physical transport infrastructure, improving the health and well-being of residents by facilitating joined-up health and social-care services accessible to all residents and meet climate change targets by facilitating home working and local working.

42. To achieve these objectives, there needs to be:

- Secure, universal, cost effective and high-performance connections available to all citizens and businesses from any location in Surrey including homes and businesses.
- Low latency connectivity to support real-time communications (e.g. for fixed and mobile sensors)
- Partnership between public and private sector with public assets available to support / facilitate connectivity in a cost effective and timely manner.
- Equivalence of access across urban and rural locations.
- Connectivity to locations in public spaces (to connect both people and things).
- Security characteristics to facilitate safe interconnectivity between public sector organisations and with the private sector.
- Shared access to common connectivity in shared spaces and buildings.
- Range of connectivity products and services to suit all businesses and citizens.
- Secure, dedicated and very high-performance connectivity to support innovation opportunities.

43. The Digital Infrastructure strategy has identified the following emerging intervention opportunities:

- Formalise the Digital Infrastructure strategy and publish in a format targeted at communicating the strategy to commercial providers and supporting funding bids.
- Create a database of public sector assets which can be made available to commercial operators.
- Create a single point of contact / barrier busting capability to streamline interactions between commercial operators and all public bodies, and to facilitate sharing of best practice between local public bodies.
- Bring forward the UNICORN re-procurement and act as an anchor tenant in a procurement designed to facilitate full-fire roll-out.
- Seek funding to support digital connectivity as part of a future Surrey growth bid.

44. A secondary element of the work is the practical application of the strategy to prioritise areas for digital infrastructure delivery. This work will also align with the infrastructure prioritisation framework being developed by the Environment Transport and Infrastructure directorate through ARUP with the framework being made available early in 2021.

Conclusions:

45. The Council's intervention into the broadband market in 2012 with the Superfast Surrey Programme has ensured that the County is currently well served by superfast broadband speeds. But with the programme ending, and rapid technological changes taking place in all aspects of our society, superfast is being superseded by gigabit-capable infrastructure which provides much faster and more reliable broadband and digital connectivity.

46. Achieving a step change in our digital connectivity will be fundamental to future-proofing the place-shaping that we are currently leading across the county and is critical if we are to achieve a more sustainable county in future.

47. Although commercial providers, Alt-Nets, BDUK and communities are all undertaking activities to roll-out gigabit infrastructure to Surrey premises, they will not get to everyone.

48. The challenge is now for Surrey to determine what our corporate priorities are, what interventions will be needed to deliver on these priorities and what funding is available (expected to be a mixture of commercial, public sector and private investment) through this work we will also establish where there are digital connectivity gaps in coverage.

Recommendations:

1. It is recommended that the Resources and Performance Select Committee receives the final draft of the Digital Infrastructure Strategy for comments before it is published.

2. It is recommended that Members are encouraged to work with their local councillors, parish clerks and the Superfast Surrey team to identify communities or groups that who would benefit from further engagement on the options available to them to improve their digital connectivity.

Next steps:

The Digital Connectivity Strategy is in its final stages of development and consultation and approval routes will be added to forward plans in due course.

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