Cyngor Sir Ceredigion County Council

REPORT TO: Corporate Resources Overview and Scrutiny Committee

DATE: 12th June 2023

LOCATION: Hybrid/Council Chamber

TITLE: Digital Connectivity

PURPOSE OF THE REPORT: To provide an overview of the initiatives and projects that Ceredigion County Council are currently undertaking to support the levels of digital connectivity across the County

REASON SCRUTINY HAVE REQUESTED THE INFORMATION: For information

Background

A report was presented to Corporate Resources Overview and Scrutiny Committee in January 2022 which emphasised that accessibility to 'good' quality, reliable digital connectivity is essential for residents, businesses, and visitors in supporting Ceredigion's economy. That with co-ordinated developments, digital infrastructure can act as a catalyst for business growth and innovation within our targeted sectors and provide communities with enhanced access to employment, education and services.

At that time, increasingly so due to previous lock down restrictions, it was evident that digital connectivity had become an essential part of modern life, influencing how individuals work, communicate and access services. The situation has not changed as we all continue to adjust following the pandemic with families, businesses and organisations increasingly reliant on the effective use of digital connectivity to maintain operations and a sense of 'normality'.

This report provides an update on the initiatives that have been carried out over the previous year, as well as raising awareness of new developments by the Council, as well as those by both UK and Welsh Governments over the coming months to promote the levels of digital connectivity across Ceredigion.

Current Situation

Broadband

Despite improvements in the level of broadband connectivity in Ceredigion over the past 12 months, the overall level of connectivity still lags some parts of Wales and the UK. Approximately 90% of premises in Ceredigion have the capability to connect to Superfast Broadband (30Mbps+), lower than that for Wales (97.1%) and the UK (97.6%) on average.

Ceredigion has seen pleasing increases in those able to receive higher speeds across the Local Authority over the past 12 months with 39.3% of the County now having access to Ultrafast Broadband (100mbps+), though this still falls behind both the Wales and UK average at 63.2% and 76.25% respectively. 5.9% of premises in Ceredigion cannot access a connection of more than 10Mbps compared to only 2% for Wales and 1.8% for the UK. This is largely due to, until recently, only Openreach offering broadband infrastructure services - focusing of fibre services, whereas other areas have seen various providers offering alternative technologies such as fixed wireless access (FWA) to overcome the challenge of providing greater speeds. Providers are now engaging with street works teams around the deployments of FWA connections which could have a significant positive impact of broadband connectivity.

Ceredigion currently has 39.16% coverage of Fibre to the Premises (FTTP), allowing download speeds of up to 1gbps (1000mbps), which again is lower than the Wales average of 47%, but greater than several of the more rural Local Authority, with the more densely populated Local Authorities receiving greater speeds (i.e., Cardiff receives 68%FTTP).
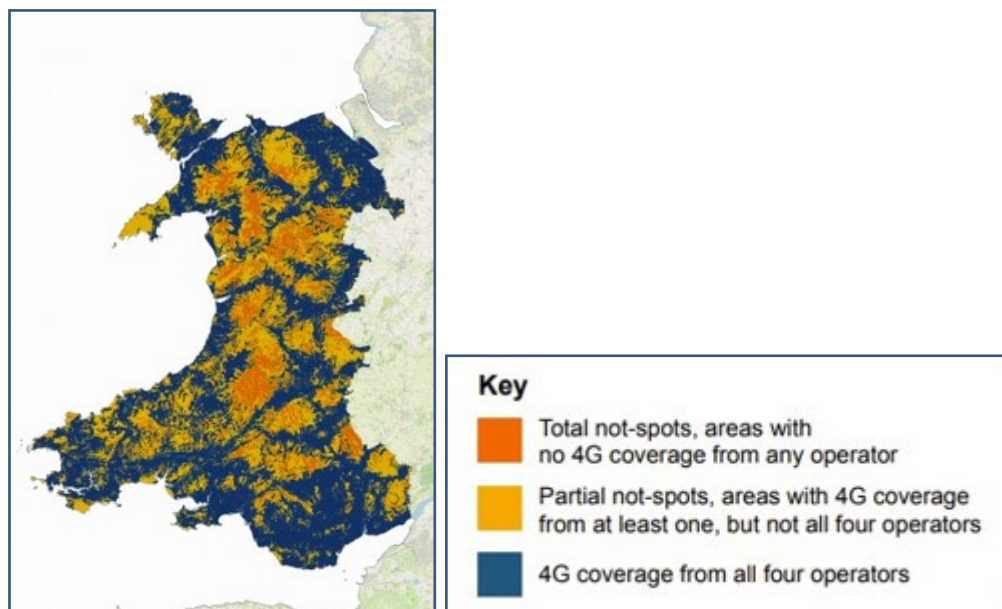
	Nov 2021	May 2023	+ / -
FTTP	26.5%	39.3%	+ 12.8%
Superfast (>30 Mbps)	85.5%	89.9%	+ 4.4%
>10 Mbps	8.5%	5.9%	- 2.6%
>2 Mbps	2%	1.7%	-0.3%

Mobile coverage

Since the previous report little has changed in the levels of mobile coverage in Ceredigion, in that mobile coverage also lags the Wales and UK average coverage with topography and the lower density of population posing challenges in improving mobile coverage in the County. Approximately 9% of premises within the County have no 4G services while only 54% of premises have 4G coverage from all four operators. This is in comparison to on average 73% in Wales and 80% across the UK.

Region	4G coverage from all MNO's	4G coverage from at least 1 MNO
Mid Wales	51%	86%
North Wales	63%	93%
South Wales Central	82%	98%
South Wales East	71%	95%
South Wales West	79%	97%

Recently Ceredigion has seen several new 4G masts activated as part of the Extended Area Service (EAS) to provide improved Emergency Services Network coverage in the most remote and rural parts of the County. It is hoped that these additional masts will become commercialised to provide services to residents and businesses.
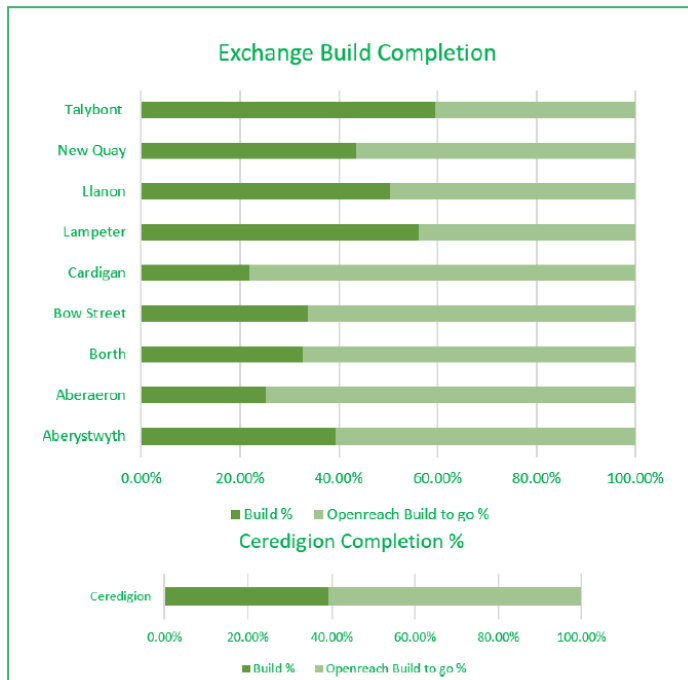

Key

Total not-spots, areas with no 4G coverage from any operator

Partial not-spots, areas with 4G coverage from at least one, but not all four operators

4G coverage from all four operators

In additional to this, the Shared Rural Network is now progressing within Ceredigion with several planning applications being received to see improvement to existing masts and the deployment of new masts to improve 4G coverage across Ceredigion. The Shared Rural Network will be detailed later in this report.

Current Projects/ Initiatives

Broadband

Fibre Projects

Although the levels of broadband connectivity suggest that we are falling behind other parts of Wales, significant progress has been made in reaching connectivity ambitions. The deployment of infrastructure takes considerable time and resources for providers and the work that has been carried out over the past 2 to 3 years is now coming to fruition. At present 4 differing alternative network providers have proposed fibre projects across the County. There are currently over 20 project areas currently being progressed. Many of these networks are still being designed, but infrastructure has now been deployed and in place for several with fibre connections being made through 'alt nets' for the first time within Ceredigion. Many of these new networks will be completed through publicly funded programmes but providers, both large companies such as Openreach as well as alt nets, are using commercial investment for deployments.

Exchange Build Completion

Ceredigion Completion %

Openreach commercial build completion level

Project Gigabit

Project Gigabit was launched in March 2021 and is aimed at delivering gigabit broadband to more than one million 'hard to reach' homes and business, where commercial investment will not be carried out and additional public funding is required to meet the UK Government's objective of 99% gigabit broadband by 2030. The project is run by BDUK on behalf of the Department for Science, Innovation and Technology.

There are many network providers already building their own full fibre broadband infrastructure and expanding them across the Region. However, since these rollouts rely greatly on a provider's own budgets and 'commercial builds', there is a limit to the areas where they can afford to supply and install fibre infrastructure. Some areas, such as some in Ceredigion, would cost more for a provider to deploy fibre than they could make back in revenue. BDUK has identified that 234,000 premises in Wales will be in scope of the Project Gigabit Programme – meaning they won't benefit from other commercial build and thus require public subsidy to go further.
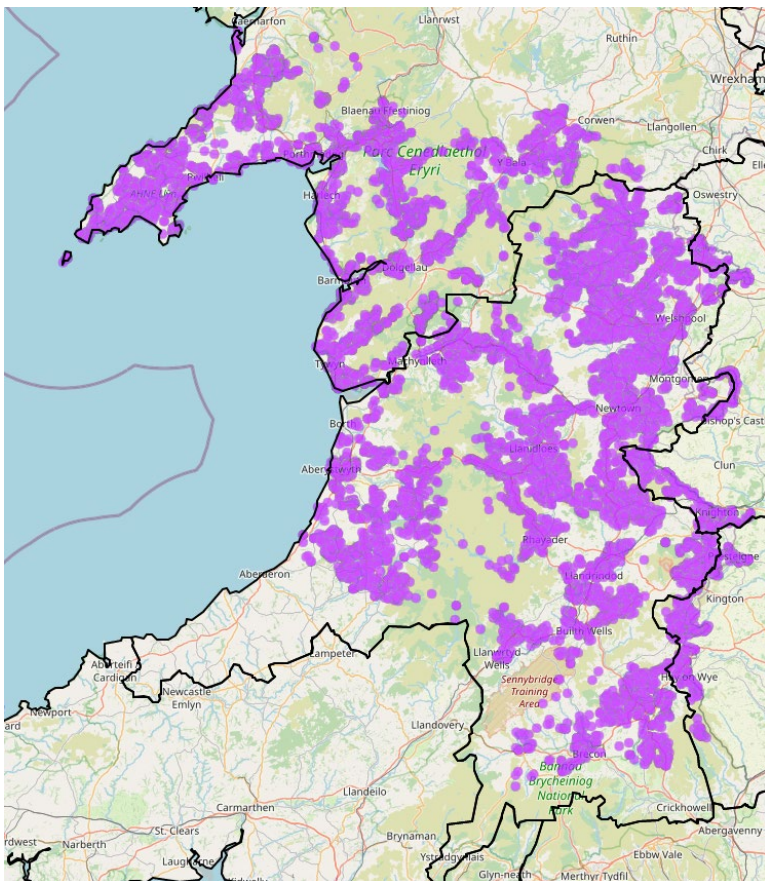
Project Gigabit is principally focused upon the procurement of contracts to develop gigabit capable broadband infrastructure in identified areas around the Country. These predominantly take the form of smaller contracts that are called off through a mini competition under a dynamic purchasing system (Type A contracts) and contracts for larger geographic areas that are each subject to a separate procurement exercise (Type B contracts).

BDUK currently have 13 live procurements and 7 contracts in place in England. Wales has been broken into 4 'lot' areas, largely following the boundaries of the four Growth Deal areas. In Wales a Pre-Procurement exercise has taken place to decide upon the best approach. Potential providers

have been requested to demonstrate their interest in bidding for differing areas of Wales. BDUK feedback suggests that there has been a very limited number of providers showing an interest in tendering for potential lots across the Mid Wales Region, this being because most do not have existing networks in place to build from and due to the poor Return on Investment.

Through discussions with suppliers and BDUK, a decision has been made to apply a Type C Procurement approach, whereas the other Regions in Wales will be procured as 'Type B'. A Type C Procurement would result in a Cross-regional Single Supplier Framework, which due to the scale and number of properties included within the contract would likely only attract larger infrastructure providers. Therefore, it is likely that Openreach would be the sole applicant for covering Mid-Wales.

Officers from both Local Authorities, as well as a few suppliers, have met with BDUK to raise concerns regarding this approach but thus far BDUK have maintained the intended approach.

Project Gigabit – Lot 48C 'Mid Wales

BDUK have identified 27,00 properties within this lot with an allocation of £54m. This would result in £2,000 being allocated per premises to make an FTTP connection. Issued as lot 48C, it will not encompass the boundaries of Powys and Ceredigion, but rather most of Powys, North from Aberaeron within Ceredigion and a large part of Gwynedd. Details regarding procuraments in the South of Ceredigion are yet to be received.

Welsh Government Prior Information Notice (PIN)

The Welsh Government has recently put out a Prior Information Notice (PIN) upon the UK Governments website for a future project for "*Extending High Speed Broadband Reach in Wales* ", which indicates that they are preparing to procure a contract worth around £70m to upgrade broadband provision to 84,000 premises across Wales (i.e., those that can't yet get "*superfast*" speeds of 30Mbps+)

The PIN, is currently formed as an "*early market engagement notice*" that is intended to share the WG's intentions and evoke discussions with potential suppliers in relation to extending the reach of "*high speed broadband*" in Wales (i.e., exploring possible delivery options). It is suggested that meetings with suppliers are expected to take place in May and June 2023 with these meetings being used to shape and outline Welsh Government's plans, investigate the interest of network operators and other stakeholders, and discuss and how the Welsh Government's intended outcomes could be successfully delivered.

WG seems to be positioning this potential procurement as a complement to run alongside other UK Government interventions, such as the Project Gigabit Programme. The detail suggests that this is more focused upon "*Very Hard to Reach Premises*" across the UK, which the BDUK has previously identified as being too expensive for even Project Gigabit.

It is worth noting that the PIN sates that it *does not commit* Welsh Government to publish a procurement *and* no further details have been received from Welsh Government at this time. Details will be shared accordingly when received.

Mobile

Shared Rural Network

The Shared Rural Network (SRN) is a collaboration between Mobile Network Operators (MNO's) and UK Government to improve 4G coverage for people living, working and travelling in poorly served rural areas.
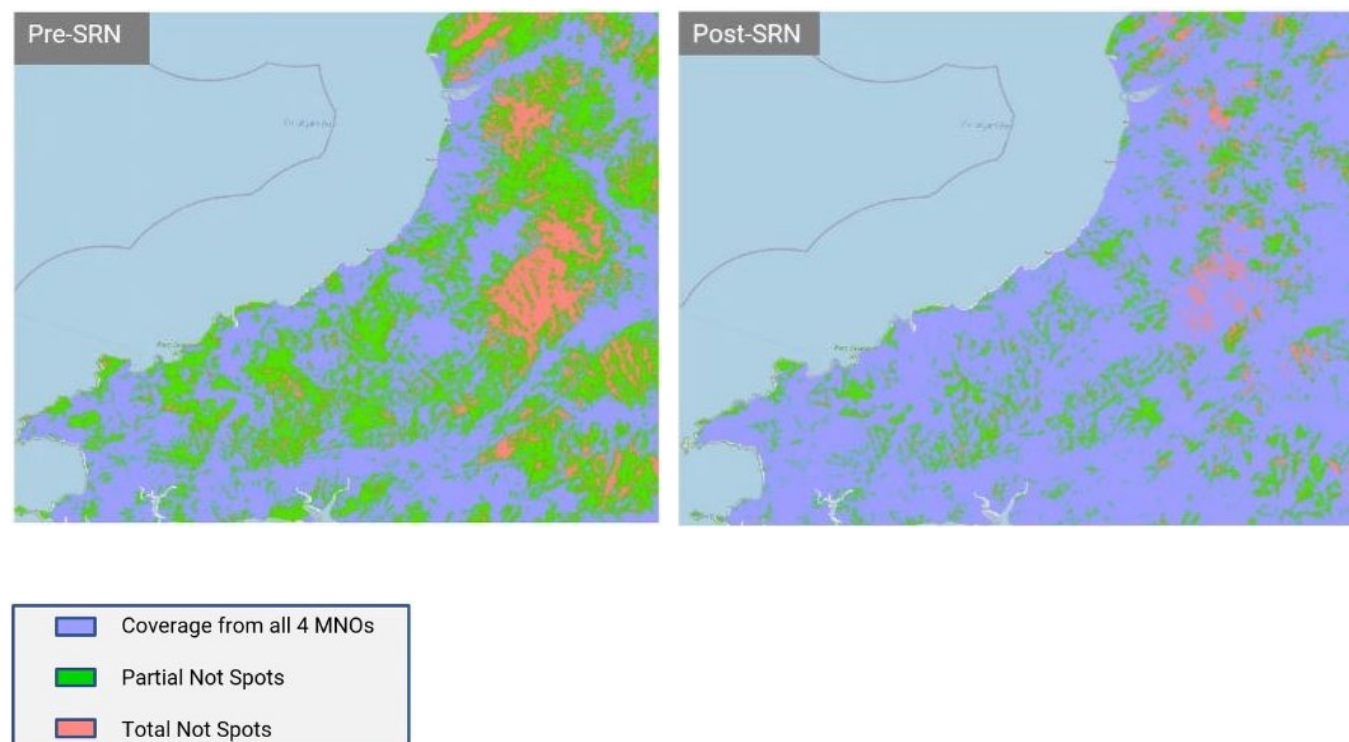
EE, O2, Three and Vodafone are collectively investing £532 million to extend their coverage by upgrading their existing networks, working together on shared infrastructure and building new sites. In addition to this the UK Government will also invest a further £500 million to build new masts in areas with no 4G coverage from any operator.

The network will ensure geographic coverage from at least one operator to 95% of the UK by the end of 2025, broadening consumer choice for mobile services in rural areas.

The legally binding coverage commitments will be enforced by Ofcom and though the specific coverage for Ceredigion has not yet been calculated, it is anticipated that coverage in Wales will improve to 95% from at least one operator and 80% from all four operators. This compares to the current levels of 89% and 58% respectively. Ceredigion County Council are involved with continued

consultations with those delivering the scheme and have committed to providing support where possible. Several planning applications for amendments to existing and new masts have now been received and are being considered by the appropriate internal teams.

The SRN will deliver reliable 4G mobile connectivity allowing rural business to prosper and rural communities to thrive. The new infrastructure is guaranteed to bring significant improvement to mobile coverage to the County, and in turn will deliver economic benefits and address the urban rural digital divide, delivering improved digital infrastructure to the areas that need it most.

5G

5G is next generation of mobile internet connection and offers much faster data download and upload speeds. It is anticipated that as MNO's deploy increased infrastructure within the region through the programmes mentioned above and mobile phones increasingly become 5G enabled that network providers will increasing look to deploy 5G infrastructure within Ceredigion to meet customer need.

Officers are currently in very early discussions with suppliers regarding the potential use of Councils assets in deploying technologies such as 4G and 5G to improve both mobile and broadband connectivity in the County, with 'small cells' being able to make use of street furniture, lighting poles and Council building to target specific area that may experience 'not spots' in coverage.

- 5G mast locations in Ceredigion

5G operates on the same radio frequencies that are currently being used for current smart phones, satellite communications and for Wi-Fi networks within the home. Beyond being able to download a full-length HD movie to your phone in seconds, 5G is about connecting things with greater reliability and without lag – so people can measure, understand and manage things in real time which can have benefits for businesses as well as for home users.

It is worth noting that the Council may receive queries about the use of 5G within Ceredigion. Public Health England (PHE) leads on health matters related to radiofrequency electromagnetic fields, or radio waves. It also has a duty to advise the Government on any health effects that may be caused by EMF emissions. On 5G, PHE's view is that 'the overall exposure is expected to remain low relative to guidelines and, as such, there should be no consequences for public health'.

Further details around 5G and health can be found upon Ofcom's website –
https://www.ofcom.org.uk/phones-telecoms-and-internet/advice-for-consumers/advice/what-is-5g

Mid Wales Growth Deal Projects

Though not specifically focused on Ceredigion, the work being carried out by the Growth Deal will bring about benefits to Ceredigion. At this current time the Digital Programme Board have identified two infrastructure projects which are currently being progressed.

The 'Very Hard to Reach Properties' (VHTRP) project, will consider how broadband connectivity can reach the last of the region's premises currently without sufficient broadband service. It will aim to provide sustainable and affordable broadband connectivity to benefit Mid Wales communities and businesses for the foreseeable future, with fibre to the property broadband not expected to reach a significant number of properties for several years. It is anticipated that the project will be 'technology neutral', in that in some instances an FTTP connection may be possible, but fixed wireless access or satellite alternatives may be required to ensure an effective broadband connection to the hardest to reach properties.

The mobile 'not spots' project, will focus on improving the Region's 4G coverage. Despite improvements in mobile coverage expected over the next couple years, through initiatives such as The Shared Rural Network, there will still be areas across both Ceredigion and Powys that will be left without mobile coverage. This may affect several communities and will negatively impact businesses, the ability of some to maintain contact with services and in some cases with the Public Switched Telephone Network (PSTN) switch off taking place it could cause safety concerns.

In addition to this, an application for the Digital Connectivity and Mapping Analysis Project was recently submitted for Shared Prosperity Funds with it being a revenue project. The project will collect, analyse, and map available data in one platform to provide a comprehensive understanding of the status of existing and planned fixed and wireless connectivity across Ceredigion and Powys. The data will allow GMW to determine how much action to take, where it is required and avoid duplicated activity and spend through GMW Digital projects.

The Outline Business Cases for these projects are currently being developed to present at GMW Board at the earliest possible opportunity.

Conclusion

Access to enhanced and reliable digital connectivity, and accelerating its deployment is fundamental to transforming the Ceredigion economy and enabling improvements in wellbeing. Digital technologies are transforming communications, services, learning and business opportunities at an ever-increasing pace. New digital technology such as the LoRaWAN network and access to data analytics have the potential to open new businesses as well as improving the lives of our communities.

While Ceredigion has seen improvements in digital infrastructure over the past 12 months and some areas experience some of the quickest broadband speeds in the UK, there are areas of the County that still fall below the levels of other areas of Wales and the UK for superfast broadband and mobile

connectivity. As suggested previously, the past 2 - 3 years has seen significant efforts being put into demand stimulation exercises and awareness raising exercises to demonstrate the commercial opportunities that are available to suppliers, with this work now coming to fruition through suppliers starting to deploy the infrastructure and making connections, which will see an increase in connectivity and access to fibre broadband.

The Council is committed to developments within this sector and action is being taken, with support and funding available through multiple streams. It is hoped that through technologies such as LoRaWAN and initiatives such as the SMART Towns project (covered in a separate paper), that Ceredigion will be seen as a place for innovation and will attract businesses and suppliers to the region to further support the economy and where appropriate for Ceredigion to be seen as a test bed to explore the advantages available through increased use of digital technology.

	Has an Integrated Impact Assessment been completed? If, not, please state why No – this is not new policy and is a fundamental part of the implementation of the Economic Strategy adopted by the Council.	
	Summary:	
	Long term:	Exploitation of the technology will enable businesses and other stakeholders to future-proof town spaces and businesses, to enable the take up of new opportunities as they emerge.
WELLBEING OF FUTURE GENERATIONS:	**Integration:**	Many public goods and objectives can be achieved through effective implantation and use of the digital technology now available across the County's towns.
	Collaboration:	Active networks are in place across all towns to enable the successful implementation, and exploitation of the opportunities.
	Involvement:	There has been widescale involvement of stakeholders in the development of use cases, and in the future planning of services that can be enhanced using the available technology,

Prevention:	Use cases in Cardigan have demonstrated how effective use of technology can be used to monitor early evidence that can be used to prevent future problems, including in public safety, and environmental applications.

RECOMMENDATION (S): To note the changes to digital connectivity in Ceredigion, and to discuss the challenges that remain,

REASON FOR RECOMMENDATION (S): This forms part of a Corporate programme to support the growth of the economy, and to use Council assets as effectively as possible to facilitate that growth.

Contact Name: Arwyn Davies

Designation: Corporate Manager, Growth and Enterprise

Date of Report: 5 June 2023

Acronyms: LoRaWAN – Long range Wide Area Network