

Digital Infrastructure Update on External Programmes

1.0 EXECUTIVE SUMMARY

- 1.1 The main purpose of this report is to provide an update on the work that is being undertaken on a number of programmes, which aim to improve the digital infrastructure across Argyll and Bute.
- 1.2 The Council has no statutory responsibility to deliver digital infrastructure in Argyll and Bute however it continues to actively engage with external partners/stakeholders responsible for Next Generation Access (NGA) whether it be Superfast Broadband (SFB) or Mobile Communications.

Next Generation Broadband

- 1.3 Delivery of Superfast Broadband is currently being rolled out under two programmes across Scotland – HIE ‘Highlands and Islands’ programme and Digital Scotland ‘Rest of Scotland’. The region of Argyll and Bute falls into both these programmes. Under these programmes Superfast Broadband is defined as speeds of >24 Mbps.
- 1.4 In Argyll and Bute 74.2% of premises have access to Super-Fast Broadband, an additional 9.1% of premises have access to the fibre network however due to their distance from the upgraded cabinet they can only get a partially upgraded service, this being speeds >24Mbps. At present 16.7% of Argyll and Bute cannot get NGA.
- 1.5 Due to efficiency saving and additional monies becoming available, both programmes have seen build times extended. Gainshare or Claw-back is the contract mechanism that returns public funding as take-up of the service rises, which supports reinvestment so that more areas can be upgraded to superfast broadband.
- 1.6 ‘Reaching 100%’ (R100) program is the next Scottish Government (SG) program commitment to give 100% of Scottish premises access to broadband speeds >30Mbps by 2021. The draft intervention area has now been determined for the Reaching 100% programme.

Mobile Communications

- 1.7 Significant improvements to the mobile phone 3/4G network coverage is imminent. This is due to the progress of the Emergency Service Mobile Communication Program (ESMCP) currently being implemented by Everything Everywhere (EE) which is in its final stages of phase1 build. In addition three other Mobile Network Operator's (MNO's) who have government commitments and licence obligations to improve premise level coverage are carrying out infrastructure improvements. Over the last 18 months there has been in excess of 150 planning applications for new mast sites and site upgrades across all network operators covering Argyll and Bute area, culminating in activation dates scheduled for March 2018. Despite this progress there remains concerns over certain MNO's lack of implementation following on from planning approval.

2.0 RECOMMENDATIONS

2.1 The Committee are asked:

- To note the contents of this report.
- To note concerns on the lack of installation of works following planning approval by some of the mobile network operators.
- To approve the Digital Liaison Officer continues to promote awareness of Superfast Broadband with the available resources and begins a community targeted campaign to increase take-up.

*** Superfast Broadband is not automatically available to customers after cabinets go live Superfast Broadband is an upgraded service which requires to be paid for from an Internet Service Provider (ISP).**

Digital Infrastructure Update on External Programmes

3.0 INTRODUCTION

- 3.1 The rollout of digital connectivity throughout Argyll and Bute is critically important for the future economy of Argyll and Bute and also to make Argyll and Bute attractive as a place to live, learn, work and visit. While Argyll and Bute Council has no direct responsibility to deliver digital infrastructure on the ground, Council Officers and Members are actively engaging with infrastructure providers in an effort to speed up the rollout of Superfast Broadband (SFB) and mobile communications throughout the Argyll & Bute Council area.
- 3.2 Work has continued on a number of commercial (BT, EE, *CTIL) or Government funded projects through these external bodies which has been extending the digital infrastructure across Argyll and Bute. This report provides an update on the various programmes being currently undertaken across Argyll and Bute.

* Cornerstone Telecommunication Infrastructure Limited (CTIL) is a network sharing partnership between Vodafone and O2

4.0 RECOMMENDATIONS

- 4.1 The Committee are asked:
- To note the contents of this report.
 - To note concerns on the lack of installation of works following planning approval by some of the mobile network operators.
 - To approve the Digital Liaison Officer continues to promote awareness of Superfast Broadband with the available resources and begins a community targeted campaign to increase take-up.

* **Superfast Broadband is not automatically available to customers after cabinets go live**
Superfast Broadband is an upgraded service which requires to be paid for from an Internet Service Provider (ISP)

5.0 DETAIL

- 5.1 The Council continues to liaise with partners/stakeholders responsible for Next Generation Access (NGA) whether it be Superfast Broadband or Mobile Communications.

Next Generation Broadband (Fibre)

5.2 Broadband Overview

The UK Government has set aside £530M to help Britain develop the best broadband in Europe and Broadband Delivery UK (BDUK) has been tasked by the Department of Culture, Media, and Sport (DCMS) to deliver this at national level.

- 5.3 Scotland's Digital Future sets out how the Scottish Government will deliver a step change in broadband speeds. Commercial deployment plans cover certain areas in the country as outlined in the original 2012 Open Market Review (OMR), but there were many areas across Scotland where commercial infrastructure providers had chosen not to develop. This is what outlined the Digital Scotland Superfast Broadband (DSSB) intervention area which aims to provide fibre broadband infrastructure to as much of this non-commercially covered areas as they can with the money available. Two fibre rollout programmes were established The Highlands and Islands program (HI) managed by Highlands and Islands Enterprise (HIE) and the Rest of Scotland program (RoS) managed by Digital Scotland (DS). Argyll and Bute falls within both program areas Oban Lorn and the Islands (OLI), Mid Argyll Kintyre and Islay (MAKI) and Bute and Cowal (BC) are part of the HI intervention area with Helensburgh and Lomond (HL) being part of RoS intervention area.
- 5.4 'Reaching 100%' (R100) program which is the next Scottish Government (SG) program commitment to give 100% of Scottish premises access to broadband speeds >30Mbps by 2021. The draft intervention area has now been determined for the Reaching 100% programme.

Superfast Broadband (SFB):- this is the term that is used for broadband over a Very High Speed Digital Subscriber Line (VDSL) over a fibre optic cable. This is where broadband speeds initially were >24 Mbps as outlined by the UK Government. This has now been re-determined due to the EU state aid regulations who have determined SFB as broadband speeds >30 Mbps. However the UK government still define SFB as >24Mbps but where public money is used speeds must be >30Mbps before being called Superfast.

- 5.5 Figure 1 below, details the current status of Superfast Broadband (SFB) across Argyll and Bute. This shows that in Argyll and Bute 74.2% of premises have access to SFB (UK standard), 9.1% of premises have access to an (improved service but not superfast) and 16.7% are still waiting for NGA. Therefore 25.8% of households still do not have access to SFB. This figure changes regularly as cabinets are activated on a weekly basis.

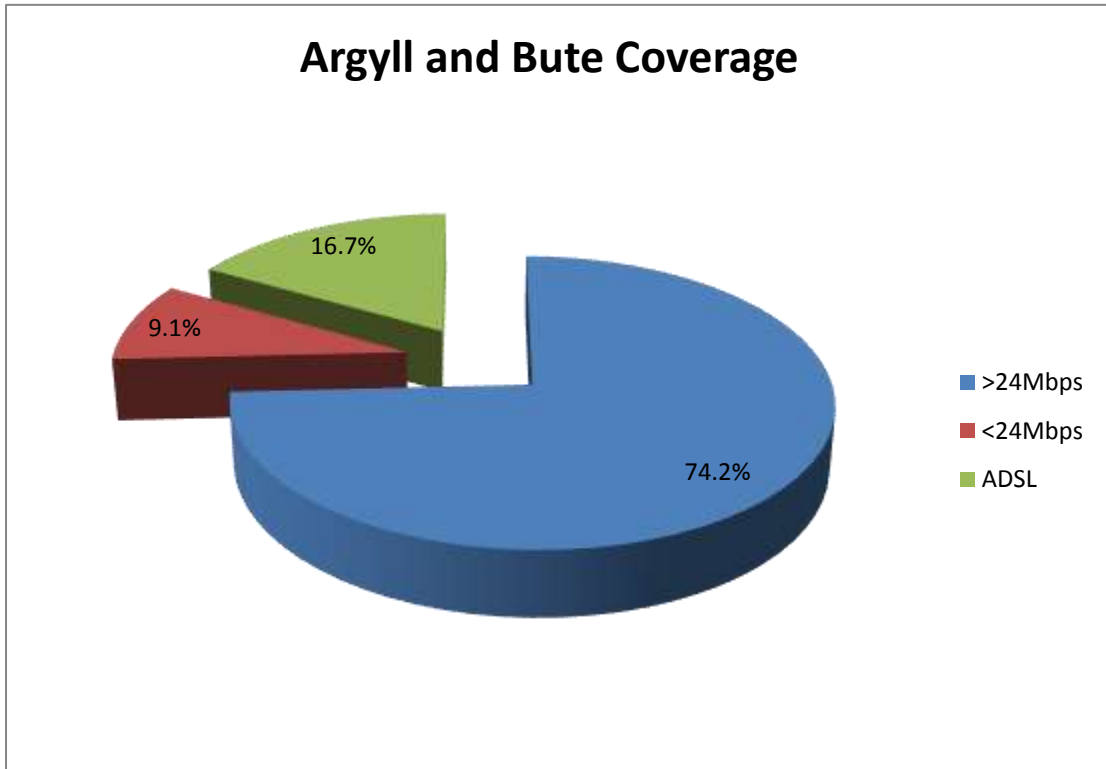


Figure 1: chart of Argyll and Bute Fibre Coverage

5.6 It must be noted that the connection to a fibre cabinet does not guarantee Superfast Broadband speeds. Most to the current program relies on Fibre to the Cabinet (FTTC) Technology. As this technology utilises part of the old telephone network, line lengths require to be a minimum of 2km from a Fibre Cabinet (DSLAM) to allow a premise to achieve superfast speeds.

5.7 **Superfast Broadband does not automatically happen after cabinets go live. Superfast Broadband is an upgraded service which requires to be paid for and purchased from an Internet Service Provider (ISP).**

5.8 BT Commercial Programme

The BT commercial programme is almost complete. As this is part of BT's commercial rollout and is not using public funding there is limited information available. BT outlined that they were planning some additional commercial investment in Helensburgh, Oban and Dunoon. 39 commercial Cabinets were programmed across Argyll and Bute. Dunoon has had its commercial deployment completed but there are still 2 cabinets in Oban and 2 in Helensburgh to be undertaken. This commercial deployment in the 3 towns provided partial coverage only. The commercial deployment has connected 13k premises with another circa 1.5k premises to be connected when the final 4 are activated. Premises within these 3 commercial towns missed by the commercial deployment are being addressed by the HIE/DS programs or the R100.

5.9 Highlands and Islands Intervention Area (OLI, MAKI, BC)

This is a publically funded programme awarded to BT OpenReach and managed by HIE.

Work has continued steadily across the area connecting more and more rural communities. To date across HIE intervention area, 133 cabinets are live and accepting orders, with 30+ more still to be built.

Exchange Location	Cabinet No.	Exchange Location	Cabinet No.
Appin	2	Kilmore	1
Ardentinny	1	Kilmun	4
Aros	1	Ledaig	4
Balvicar	3	Lochgoilhead	2
Barbreck	1	Lochgilphead	12
Bowmore	2	Machrihanish	2
Campbeltown	10	Minard	2
Carradale	1	Oban	8
Clachan	1	Port Askaig	2
Connel	2	Port Charlotte	2
Craignure	2	Port Ellen	3
Crinan	1	Rothesay	11
Dalmally	1	Scarinish	3
Dervaig	1	Southend	1
Dunoon	6	Strachur	2
Ford	1	Tarbert	2
Furnace	2	Taynuilt	4
Innellan	4	Tayvallich	1
Inveraray	2	Tighnabruich	3
Kilchattan Bay	2	Tobermory	2
Kilchrenan	1	Toward	2
Kilmartin	2	Whitehouse	1
Kilmelford	1		

Exchange areas currently in progress

Achnamara	Jura
Cairndow	Kilfinan
Coll	Portnahaven
Glenbarr	

This means that the following exchange areas will see no current investment from this programme:-

Bonawe	Kinlochspelve
Colintraive	Lismore
Colonsay	Lochavich
Fionnphort	Luing
Gigha	Pennyghael
Glendaruel	Skipness
Kilkenzie	Tayinloan
Kilninver	Ulva Ferry

5.10 It must be noted than some of these exchange areas have been de-scoped from the fibre intervention areas as they are working with Community Broadband Scotland (CBS). The purpose of de-scoping is to allow the use of state aid (state aid regulations dictate that state funding cannot be used where commercial coverage is planned or state aid has already been used).

5.11 Rest of Scotland Programme Intervention Area (HL)

This, as with the HIE intervention area, is a publically funded program awarded to OpenReach and managed by Digital Scotland. This was one of the last areas to see live connections. Considerable delays were experienced when trying to secure wayleaves for construction work. However good progress has recently been made with the activation of 21 cabinets and 8 more still to be progressed. In total there are 10 exchange areas in Helensburgh & Lomond, 7 of these are currently being progressed

Arrochar		Garelochhead	
Cardross		Kilcreggan	
Clynder		Rhu	
Helensburgh			

5.12 Out of the remaining 3 exchange areas, Arden and Luss should be in the program through the ‘Gainshare’ re-investment and Coulport is under review in an effort to find a solution.

5.13 BT, HIE and DS have published interactive maps where further information can be accessed:

<http://homeandwork.openreach.co.uk/when-can-i-get-fibre.aspx>

<https://www.scotlandsuperfast.com/where-when>

<http://www.hie.co.uk/regional-information/digital-highlands-and-islands/can-i-get-it.html#>

The following link has been added to the DS website detailing the reasons for lack of connectivity. <https://www.scotlandsuperfast.com/where-when/why-cant-i-get-a-date/>

5.14 Community Broadband Scotland (CBS)

As mentioned in para 4.3 CBS became involved in areas that were outside the initial scope of the DSSB fibre rollout phase1. Where the initial programme was not going to cover, some communities decided to take it upon themselves to progress a NGA scheme.

5.15 This initially saw Mull approach CBS to assist in providing a fixed wireless solution that would see SFB over a fixed wireless network this was the Giga Mull project. After initial discussions with CBS it was established that the projects intervention area could be enlarged to encompass numerous settlements in Argyll’s islands and remote areas of the mainland providing much needed solution in these hard to reach areas. From this point the project was named Gigaplus Argyll (GPA).

5.16 The tender was awarded to ABInternet a Lincoln based wireless internet service provider who already operated several wireless networks across the United

Kingdom. Work commenced with network design, land negotiations and planning applications submitted. However delays were experienced through protracted land negotiations additional community public consultations and unforeseen delays. Unfortunately ABInternet called in the administrators in May of this year.

5.17 CBS are also involved in a number of other Community driven schemes - the Kyles of Bute Community Broadband (KCB) are at tender stage however they have been required to re-issue and consider a larger intervention area. This causes concerns given the historic situation with GPA and the large intervention area. Having a larger intervention area with a greater number of potential premises makes the commercial model more financially attractive to potential bidders, however with a larger area and greater costs comes greater risk in the event of project failure.

5.18 A decision is required by November, if KCB wish to progress along the community line or be included in the R100 program.

5.19 Reaching 100% (R100)

The R100 programme is a Scottish Government manifesto commitment to provide every premise in Scotland access to broadband speeds >30Mbps by 2021. It has been suggested that this could cost anything from £400-600M to complete and is technology neutral which means that it could be a mix of technologies from fixed line, wireless networks, mobile networks or satellite broadband to provide the solution.

It has been established that 14065 out of 57493 premises in Argyll and Bute will be part of the R100 intervention area (fig 2).

5.20 The R100 team have set out 3 procurement lots North, South and Central Following intensive supplier engagement, the R100 team intends to run one procurement with three separate lots rather than run separate procurements. The lots have been designed to create the optimal conditions to encourage competition in the marketplace and to deliver value for money for public investment. This approach has been endorsed by the majority of potential suppliers through the engagement process.

The anticipated timeframe and key milestones to the R100 are:-

Launch of OJEU Notice	October 2017
Issue of invitation to Tender	February 2018
Contract Award	December 2018

This programme is however subject to change once a procurement procedure has been selected.

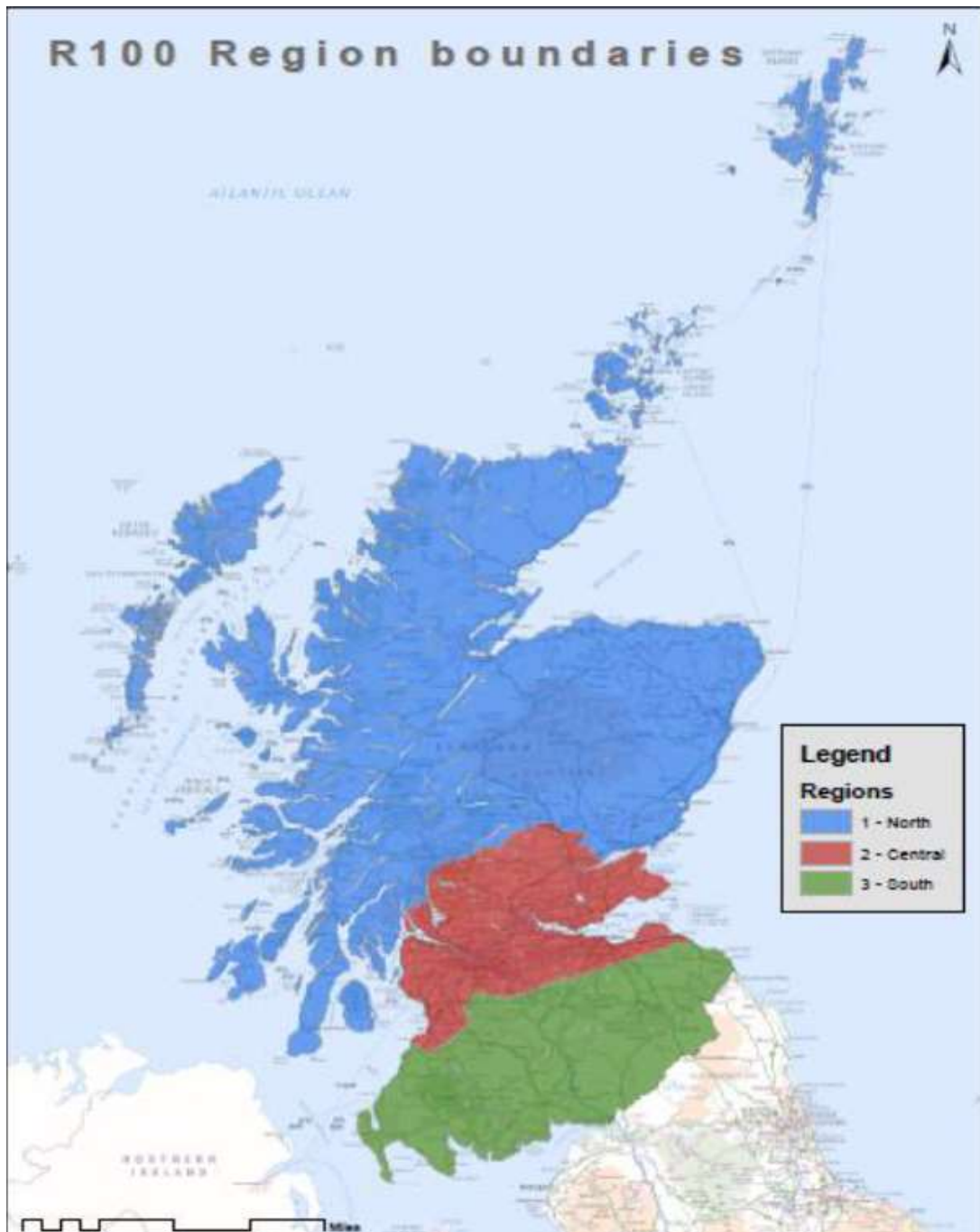


Figure 2: R100 procurement areas

5.21 Digital Scotland's Public Awareness Programme



Figure 3: Cab Launch in Rhu Aug17

- 5.22 As part of DS program a 'Demand Stimulation' team are in place. Their main function is to raise awareness of the fibre rollout program through advertising campaigns, social media feeds (Facebook, Twitter) and press releases. One such press release was a Cabinet launch which was held in Rhu at the beginning of August. (Figure 3). This was attended by Robert Thornburn (OpenReach client director for Scotland), Councillor Aileen Morton (Argyll and Bute Council Leader and Policy Lead for Economic Development), Suzanne Bell (Rhu Marina Manager), Lynn Johnston (Contract Manager for HIE) and Gordon Willis (OpenReach Engineer).
- 5.23 For the full article please follow this link or insert into you browser <https://digitalscotland-newsroom.prgloo.com/news/fibre-boost-sails-into-rhu-thanks-to-digital-scotland-superfast-broadband>
Raising the awareness of the availability of fibre broadband is of paramount importance and the Digital Liaison Officer proposes a community targeted approach to assist with this. Resources have been made available to support this campaign to inform communities and improve take-up. It cannot be stressed enough that the public needs to be informed that a fibre based Broadband is an upgraded service and must be bought from an Internet Service Provider.
- 5.24 The Digital Economy Act 2017
The Digital Economy Act 2017 is an act of the Parliament of the United Kingdom. It is substantially different from, and shorter than, the Digital Economy Act 2010, whose provisions largely ended up not being passed into law. The act addresses policy issues related to electronic communications infrastructure and services, and updates the conditions for and sentencing of criminal copyright infringement.

The act received Royal Assent on 27 April 2017.

5.25 One major outcome of this is the proposal of a Universal Service Obligation (USO) into the provision of a minimum download speed of 10Mbps. This USO can be increased in the future, albeit it once 75% of households have upgraded to SFB.

5.26 The provisions of the act which relate to this report can be found in appendix 1

Mobile Communications

5.27 A rough guide to terminology that is regularly used by the mobile industry:

Definition
<ul style="list-style-type: none">• 2G – Second Generation of mobile telephony systems. Uses digital transmission to support, low speed data communications, and short messaging services, (calls and texts).• 3G – Third generation of mobile systems. This provides high-speed data transmission and supports multi-media applications such as video, audio and internet access, alongside conventional voice services. (Email and webpages).• 4G – Fourth generation of mobile systems. It is designed to provide Superfast data download and upload speeds on mobile networks, (music, video streaming and gaming).• 5G – Fifth generation of mobile systems. This is in the early stages of development and will require additional spectrum to support. This is expected to provide ultrafast data download and upload speeds on mobile networks.

5.28 Scottish Government's Mobile Action Plan sets out how the Scottish Government will deliver on its priority to improve mobile connectivity. Significant progress is being made towards meeting 4G coverage obligations and the 90% geographic coverage agreement. However after the commercial program has been completed there will still be some coverage gaps. Scottish Government are working with Scottish Futures Trust (SFT) to fill these gaps with the 4G in-fill program in some of the most rural and remote parts. There is currently 4 in-fill sites being looked at across Argyll and Bute.

5.29 A huge game changer is the rollout out of mobile phone 4G coverage improvements via the Emergency Services Mobile Communication Program (ESMCP) more commonly known as the Emergency Service Network (ESN). This is the transferring of blue light services away from the old Airwaves system to a new 4G digital platform. The ESN contract was awarded to Everything Everywhere (EE) now owned by BT and has culminated in a significant number of new mast sites and upgraded sites to provide 4G coverage to every road in Argyll & Bute. Phase 1 of the ESN will see a gradual activation as network clusters are established by March next year.

5.30 The three other Mobile Network Operators (MNO's) are also going through similar site upgrades and mast builds but it currently appears to be with less urgency in rural areas than in urban locations. Officers are actively lobbying and working with

the other MNO's to implement their respective infrastructure improvements and get accurate levels of coverage improvements similar to what is received from EE.

5.31 CTIL (acting for Vodafone and O2)

CTIL have long been indicating that their network coverage improvements are forthcoming across the whole of Argyll and Bute, however significant progress is yet to be experienced. 58 planning applications have been received for new/upgraded mast sites over the last 18 months (fig 5), to-date improved/new 4G availability has only been made available in Connel, Taynuilt, Ganavan and Tarbet (Loch Lomond).

5.32 Numerous requests by the Digital Liaison Officer have been made to CTIL for updates on progress for cascade purposes but very little have been received. CTIL has been reported this as being down to commercial sensitivities.

5.33 Vodafone has a binding agreement in place as part of the Scottish Government's Mobile Action Plan to improve coverage by Dec 17 and O2 have licence obligations. Figure 4 maps the CTIL planning applications that have been granted permission whether these are for full planning permission or considered Permitted Development (PD).

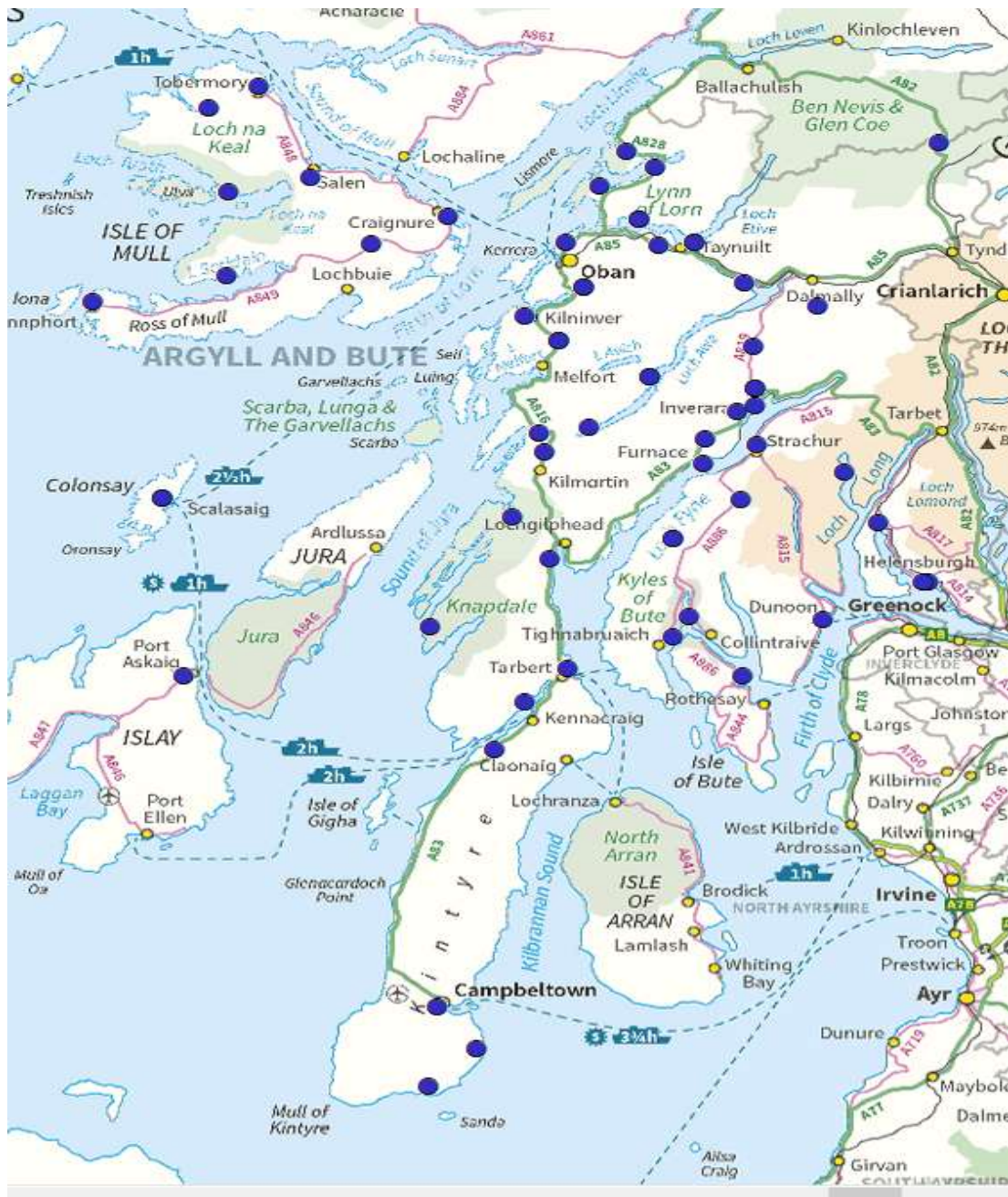


Figure 4 Map of current CTIL planning application

- 5.34 Concerns over the proposed timeframe into network extension/improvements is becoming critical. It is felt that some MNO's are currently trying to deflect lack of coverage improvements onto factors out with their control, whether this is lack of available backhaul, lack of power requirements, protracted land negotiations or delays in planning determinations. However as outlined earlier a large number of planning applications have been granted and have not been implemented.
- 5.35 Other delays could have been overcome with early interventions. Assistance has been offered by officers on several occasions to MNO's but the lack of communication has been a prohibiting factor. Mobile connectivity is of paramount importance to Argyll and Bute and lack of progress from a major MNO, who has historically been the main provider to this area, is very disappointing.

5.36 The Emergency Service Network (ESN)

As everyone that lives or has visited Argyll and Bute are well aware, mobile phone coverage across all Mobile Network Operators (MNO's) is patchy. This will hopefully greatly improve as major network improvements are imminent. This is due to the announcement that the Emergency Service Network (ESN) for blue light services is going digital.

5.37 Everything Everywhere (EE), (now owned by BT) won the contract to provide this technological shift, which will ultimately see every road in Britain covered by a 3/4G signal. This requires a huge network of masts and infrastructure improvements with estimated timeframes of masts being activated between now and March 2018.

5.38 Currently there are around 80 EE mast sites in Argyll and Bute (fig 5) 10 of which are in The Loch Lomond and the Trossachs National Park (LLTNP) who regulate planning within the parks boundary. The council's planning team have already granted full planning permission or granted permitted development to 60 EE mast sites. The following map shows the upgraded/new sites that have gone through the planning process since the beginning of 2016.

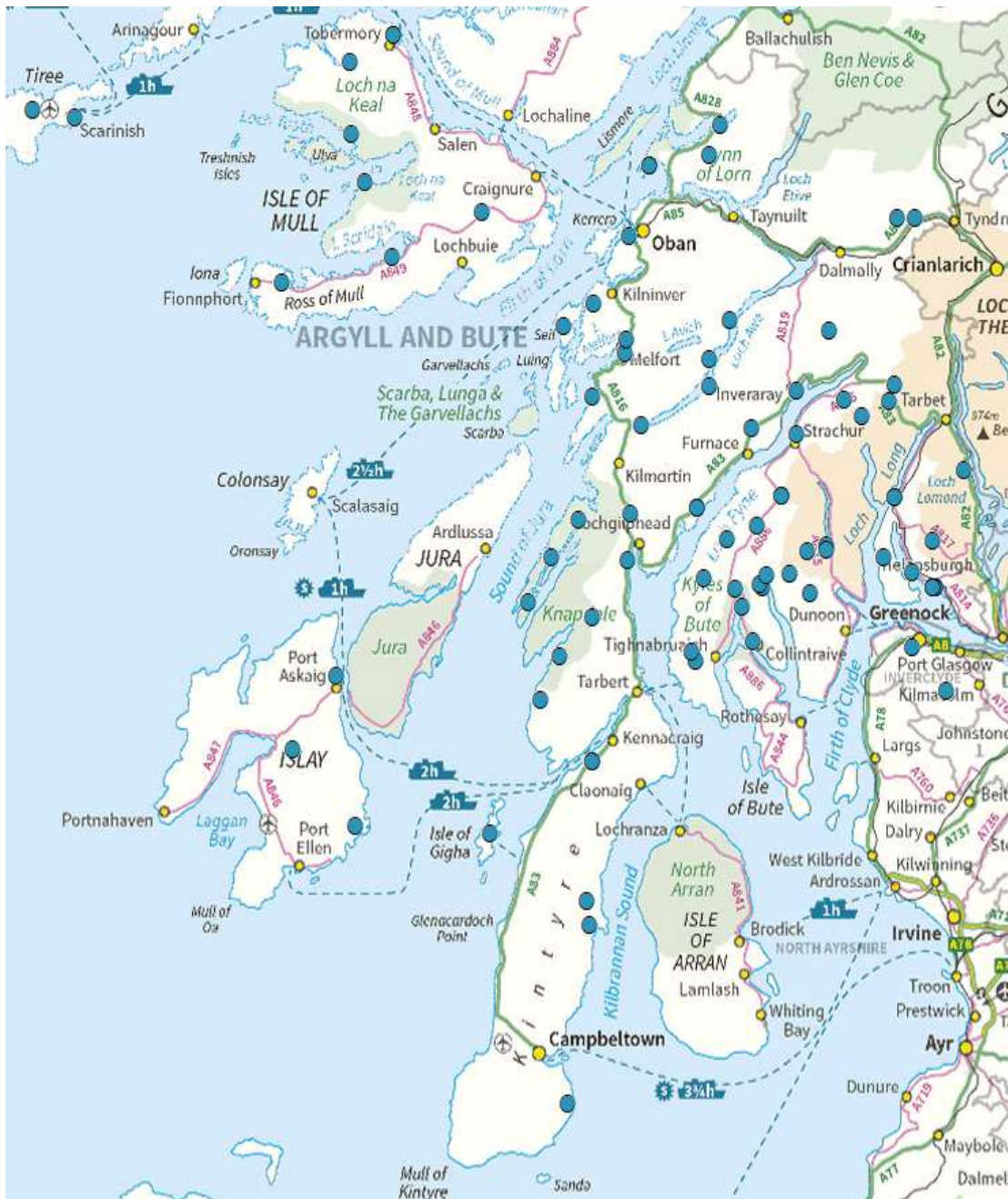


Figure 5 Map of current EE planning applications

5.39 Permitted development is usually associated with mast upgrades, which ultimately means that Argyll and Bute is looking at, in-excess of 50 new mast sites across the council area from EE alone. As can be seen in the map below (Fig 6) the changes over the last two years has been substantial in providing improvements to 3/4G coverage.

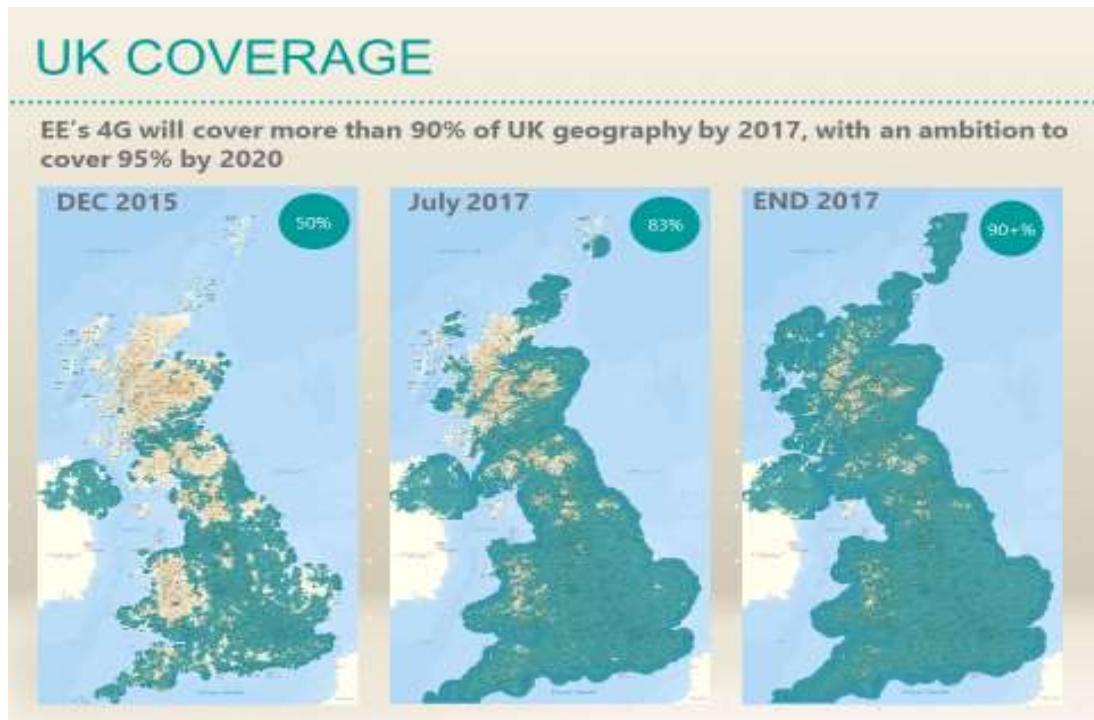


Figure 6 Progress of Mobile Phone coverage from EE

5.40 Digital Implications of Argyll and Bute's Rural Growth Deal

Argyll and Bute Council are currently working with key stakeholders to negotiate a Rural Growth Funding Deal with the Scottish and UK Governments. This will follow similar principals to the city region deals which have recently been agreed or are in development in neighbouring local authority areas. The Rural Growth Deal could be a potential mechanism to accelerate delivery of critical digital infrastructure at some of the regions key business sites and educations facilities or a means to upscale existing proposals currently being delivered by public and commercial funding (e.g. Digital Scotland Superfast Broadband Programme, ESN mobile network). The Rural Growth Deal funding could be used to provide additionality to some of the existing digital programmes and ensure that our key business sites and education facilities are futureproofed to take advantage of advances in digital technology.

6.0 CONCLUSION

6.1 Modern digital infrastructure is now essential to aid the expansion of local business, deliver critical services in new and more efficient ways and also improve peoples' qualities of life. Work is therefore progressing in all aspects of digital connectivity whether it is mobile communications or broadband. However despite this progress which is beginning to accelerate considerable issues still need to be resolved and the council will continue to assist and lobby infrastructure providers until Argyll and Bute have an equitable coverage fixed or mobile to all others areas of the UK as a minimum. It also must be stressed that it is imperative that Argyll and Bute Council continues with driving forward with efforts of raising awareness on the benefits of SFB, whether it be for domestic or commercial purposes. Only then can the full potential of Argyll and Bute be realised. Digital technology is for the benefit of every person living in Argyll and Bute and is an intrinsic part of modern life.

7.0 IMPLICATIONS

7.1	Policy	The Scottish Government has made a commitment for Scotland to have 100% Superfast Broad coverage by 2021.
7.2	Financial	None.
7.3	Legal	None.
7.4	HR	None.
7.5	Equalities	Improving Services for rural/fragile communities.
7.6	Risk	The lack of progress in delivering digital connectivity throughout Argyll and Bute has the potential to negatively impact on our economy and attractiveness as a place to live and work.
7.7	Customer Services	None

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24th October 2017

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APPENDICES

Appendix 1: Digital Economy Act 2017

Appendix 1:

Digital Economy Act 2017

It allows Ofcom, the communications sector's regulator, to financially penalise communications providers for failing to comply with licence commitments.

There is a requirement of ISP's to provide compensation to customers if service requirements are not met. Ofcom are working on a new system that will automatically compensate customer for service failings in the event of total loss of service longer than two working days. There is a complication in that not all service failings are the fault of ISP's.

It allows updating the Ofcom Electronic Communications Code (ECC) to make it easier for telecommunications companies to erect and extend mobile masts. This came into effect on the 7th August 2017. The ECC rules have been revised in order to make it cheaper and easier for telecoms and broadband developers to both access and build on private land although this involves a "major change" to the way land is valued. However the new Code rights will only apply to contracts signed after the law has come into effect, and will not apply to existing contracts retrospectively, although transitional arrangements will be needed in some cases as old contracts expire.

As part of this, changes in planning regulations were made to coincide. These were changes to the Class 67 permitted development. The amendment Order was laid before Parliament and came into effect on 31 July 2017. Permitted Development Rights (PD) have changed making them more accommodating to telecommunication upgrades. These changes will accelerate the timescales in a lot of cases that in the past would have taken considerably longer requiring to go through the whole planning process.

The main changes are:-

- PD rights for new ground based masts up to 25 metres in height outside designated areas, subject to conditions regarding prior approval by the relevant planning authority.
- Increased PD rights for 'small antennas' on dwelling houses and in their curtilages and no restrictions on other buildings.
- Allow a maximum of 5 'antenna system' on buildings outside designated areas (currently 4) when located more than 15 metres above ground level.
- Extend PD rights for the overall height of apparatus on buildings. Currently the maximum height of apparatus on a building is 6 metres but in future apparatus will be able to protrude above the highest part of a building by 8 metres for buildings of 15 metres or more in height.
- Amend PD rights for existing ground based masts up to 20 metres in height to allow an increase by a maximum of 7 metres on the height of the original mast (where such masts are over 20 metres or over 50 metres in height the limits on increase in height of 5 metres and 15% respectively will

remain), and allow replacement ground based masts to be up to 6 metres from the location of the original mast (currently the maximum is 4 metres).

- Amend and clarify the general conditions on these PD rights on serving advance notice of PD, minimizing the impact of PD and removing equipment when it is redundant or after an emergency, and restoring the land or buildings to their original condition or a condition agreed with the planning authority.

Additional changes to PD will be made by the Scottish Government in relation to planning realms deemed as designated areas.