

PERTH & KINROSS COUNCIL

Enterprise and Infrastructure Committee

11 January 2017

Digital Infrastructure in Perth and Kinross – Progress Report

Report by Director (Environment)

The purpose of the report is to provide an update on progress in providing digital infrastructure in Perth and Kinross through the Digital Scotland Superfast Broadband programme. It also outlines work that has now been initiated on the Government's new R100 programme and recommends a new initiative through the LEADER programme to support digital connections in the most remote rural communities. A short presentation will be made to the Committee to introduce this item.

1. BACKGROUND/MAIN ISSUES

- 1.1 Access to high quality fixed and mobile internet services is important to the lives of people in Perth and Kinross. Over recent years, all nations across the UK have seen an increase in the coverage of these services. However, there are many areas of Perth and Kinross where fast broadband services remain unavailable and where mobile coverage is poor.
- 1.2 Scotland sees lower availability of communications services than the UK as a whole. The relative lack of market incentives also means that the way to increase digital and mobile coverage in many of the more remote rural areas relies partly on publicly funded intervention programmes.
- 1.3 This report covers the progress of the intervention programme established by the Scottish Government for the Rest of Scotland area (there is also one for Highlands and Islands), which is the Digital Scotland Superfast Broadband Programme (DSSB). It also outlines the development of the new R100 programme that aims to achieve 100% coverage of superfast broadband in Scotland by 2021. It then indicates the support that it is suggested should now be provided to the most remote rural communities through funding allocated by the Council to be matched with EU funding from the Rural Perth and Kinross LEADER programme.
- 1.4 A short presentation will be given to the Committee to introduce the item and a Glossary of Terms is given in Appendix 1.

2. DIGITAL SCOTLAND SUPERFAST BROADBAND PROGRAMME

- 2.1 Members of the Committee have received previous reports on the progress of the Digital Scotland Superfast Broadband (DSSB) programme which is one of the schemes established to provide digital infrastructure. Previous reports have updated on the series of objectives agreed by the Committee and revised on 20 November 2013 (Report 13/550 refers) to improve broadband and digital infrastructure across the area and to make Perth a 'Super Connected City'.
- 2.2 An initial progress report was considered by this Committee on 2 April 2014 (Report 14/153 refers) and the last report was made on 3 June 2015 (Report 15/228 refers). In summary, the project's objectives and progress against them is provided in the following table:

Project's Objectives	Progress / Comments
Objective 1: by 2017, as a minimum, all premises across Perth & Kinross will have access to a 2Mbps service.	71.2% of premises have access to a 2Mbps service (as at June 2016 Digital Scotland). 90% coverage is anticipated by the end of 2017 (Digital Scotland). Baseline was 41.2% at start of the contract.
Objective 2: by 2017, 90% of premises in Perth & Kinross will have access to a Next Generation Broadband (NGB) service of 24Mbps or more.	68.3% of premises currently have access to a >24Mbps service (as at June 2016 Digital Scotland). 83.1% coverage is anticipated by the end of 2017. Baseline was 41.2% at start of the contract. Average UK broadband speed is 28.9Mbps (Ofcom, Nov 2015).
Project's Objectives	Progress / Comments
Objective 3: by 2017, all settlements over 1,000 people in Perth & Kinross will have access to a 24Mbps service or more.	Information is not provided by Digital Scotland in this format on a routine basis. October 2016 figures show 36,162 premises in 41 settlements had access to fibre broadband but only 62% of these are Fibre to the Cabinet (FTTC) links that can access 24Mbps, others are on Exchange Only lines.
Objective 4: by 2015, premises in Perth City will have 100% access to Ultrafast Broadband service (at least 80Mbps).	77.4% have access to >30Mbps but only 48.12% have access to >100Mbps in the Perth and N Perthshire area (thinkbroadband.com on 1/12/2016).

Objective 5: by 2015, Perth City will have better wireless coverage	A city-wide Wi-Fi scheme for Perth is being procured as a pilot, prior to other towns being considered.
Objective 6: take-up of broadband services will be at least equal to the average across the UK (current UK take-up rate is 75%) by 2017.	Broadband take-up for Perth and Kinross is 73.3% 71% for Scotland 78% in UK (Ofcom, 2014).

- 2.3 Ofcom, in its Connected Nations 2015 report for Scotland noted that coverage of superfast broadband has increased significantly in the past year as the DSSB programme rolls out. Mobile coverage for data services (to enable internet use of web applications) has increased modestly in Scotland, but basic voice service coverage (such as 2G to make calls or send texts) remains unchanged.
- 2.4 The targets for the DSSB intervention programme for Scotland are as follows:
- Fibre connectivity to 85% of premises by the end of 2015 (updated to March 2106).
 - Fibre connectivity to 95% of premises by the end of 2017 (recently updated by Digital Scotland to March 2018).
- 2.5 BT stated, in the contract with Scottish Government, that it expects 77% of premises to achieve speeds of more than 24 Mbps. However, due to the length of copper cabling and other geographic and technical reasons, the Scottish Government and BT cannot guarantee the actual speeds premises will receive.
- 2.6 The DSSB programme is funded from a mixture of public and private sources to total of £264m comprising £157m from public sources (Scottish Government, ERDF, Broadband Delivery UK and all 27 local authorities that form part of the Rest of Scotland Project area). This includes £1.2m from Perth and Kinross, and a further £200K to support rural communities. BT has provided £106.7m.
- 2.7 Fibre to the Cabinet (FTTC) is the main technology currently in use in the programme (see Appendix 1) which generally offers download speeds of up to 80Mbps and upload speeds up to 20Mbps. However, some premises are connected directly to the telephone exchange via 'Exchange Only Lines'. There is no Fibre to the Premises (FTTP) in Perth and Kinross. Commercial providers are providing FTTP but only where it is commercially viable. Virgin media cable, for example, is provided to 33% of premises in Perth and Kinross, but is largely focused on the Perth/Scone and Blairgowrie areas.

- 2.8 The Programme is now over halfway to meeting its overall 750,000 premises target, with the Highlands and Islands programme completing in advance of the Rest of Scotland programme by the end of 2016.
- 2.9 In August 2016, Audit Scotland reviewed progress on the roll-out of superfast broadband in Scotland. By March, 2016 85% of premises had access to fibre broadband. BT are currently on track to provide access to 95% of premises in Scotland by December 2017, although they state the remainder of the roll-out will be more challenging.
- 2.10 In Perth and Kinross, access to superfast broadband has increased from the baseline of 41% at the start of the contract to 71%. However, the Council area was one of only six in Scotland where the 85% target by March 2016 was not met. Those areas without access are rural or remote and are likely to need more complicated and costly engineering solutions. Premises in rural areas also currently receive lower average speeds than elsewhere. In these areas there is the potential that many communities may become digitally excluded where solutions cannot be found to connect them to the internet.
- 2.11 In Scotland, more premises connected to the network are estimated to receive speeds which exceed 24 Mbps than is set out in the DSSB contract. Lower than expected costs of delivery and higher than expected take-up of broadband services means that an additional £27 million will be available to extend broadband coverage beyond the original Rest of Scotland contract area and this could benefit Perth and Kinross.
- 2.12 A detailed update on progress in relation to the above objectives is outlined below:

Objective 1 (Improved Broadband Speed across Perth and Kinross)

- 2.13 The contract between the BT Group and the Scottish Government was signed on 9 July 2013. The programme is on time and on budget, but the target for delivery to 85% of premises by the end of 2015 was not been met in Perth and Kinross. This is due to the rural nature of our area and because commercial coverage is limited.
- 2.14 As agreed in the contract, central funding (i.e. Scottish Government, Broadband Delivery UK (BDUK) and European Regional Development Fund) would provide a minimum speed of 2Mbps to all premises in Perth and Kinross. Digital Scotland information on progress at this stage, indicates that, by the end of the contract in 2017, there will still be 10% of the area without fibre coverage. These areas will either be covered through the Better Broadband subsidy scheme to achieve other solutions or will be picked up by by the new R100 programme.
- 2.15 In many cases, a subsidy for a satellite connection will be made through the Better Broadband scheme. However, wireless networks are also a possibility as well as mobile broadband, where mobile networks are available.

Objectives 2 & 3 (Next Generation Broadband)

- 2.16 In the contract with BT, the aim is to provide superfast broadband to 90% of premises in Perth and Kinross by December 2017. As at 30 June 2016, 68.3% of premises have gained access to fibre coverage. This means that residents and businesses with access can contact their internet service providers to upgrade their services and achieve speeds of at least 24Mbps.
- 2.17 The programme is now extending into more rural parts of Perth and Kinross and, for example, part or all of the following settlements can now access superfast broadband: Abernethy, Ballingluig, Burrelton, Errol, Inchtute, and Methven. There have been Cabinet launches attended recently by the Convenor in Crieff and Inchtute and more are currently being planned for 2017 – the final year of the contract.
- 2.18 For premises that cannot access a 2Mbps service, there is a Better Broadband subsidy scheme where householders can apply for a subsidy for deployment of alternative solutions using wireless or satellite. This remains the best current option for many homes in Perth and Kinross where there are no plans to bring superfast broadband in the next 6-12 months or for premises that are too far from cabinets or with Exchange Only lines. This is also the case for premises covered by the commercial roll-out which have not yet been reached.
- 2.19 Community Broadband Scotland (CBS) will also assist communities in areas that are difficult for the DSSB programme to reach. The Council frequently works with the community and with CBS to provide advice regarding available options. The Government is currently considering the role of CBS in the context of the R100 programme.
- 2.20 The Council agreed to provide an additional £200K in 2015/16 to support communities in the development of alternative solutions to:
- carry out technical feasibility studies to provide communities with technology solution options to improve broadband access;
 - support communities to develop business models to implement and procure technology solutions; and
 - match fund public or private funding to install and trial technology solutions.
- 2.21 This funding can be matched by the Rural Perth and Kinross LEADER programme to establish a project to support rural communities.

- 2.22 Several localised projects have been supported by the Council and Community Broadband Scotland and are currently in the project pipeline.

Objectives 4 & 5 (Perth City)

- 2.23 The majority of cabinets in Perth and Scone have been upgraded with speeds of up to 74Mbps achievable in Scone and around 27Mbps in Perth. Broadband provision at over 30Mbps is available to around 77% of premises in the Perth and North Perthshire constituency area.
- 2.24 The Council implemented a Broadband Connection Voucher Scheme funded by the UK Department of Communications, Media, Culture and Sport (DCMS) which initially focused on Perth City but was extended to the whole of Perth and Kinross. This concluded at the end of March 2016 and supported 120 SMEs to establish superfast broadband connections.
- 2.25 The network of free public WiFi hotspots in public buildings in Perth has been extended to nine other venues outside the city using further funding secured by the Council from Scottish Government. These venues include Scone Library, Blairgowrie Town Hall and the mobile libraries. A free public WiFi network is currently being procured for Perth city centre with a view to extend to other town centres if this is successful.
- 2.26 Wireless in the city will help mobile operators to improve 4G coverage and eventually 5G coverage. It can be used by the Council and other providers to progress smart city projects (e.g. parking, intelligent street lighting, footfall counts, air quality and noise monitoring).

Objective 6 (Broadband Take Up)

- 2.27 Broadband take-up for Perth and Kinross is above the Scotland average of 71% at 73.3% but below the 78% achieved in the UK. Take-up rates can be affected by income and age, with those aged over 55 or on low incomes often being low internet users
- 2.28 In terms of the DSSB programme, BT originally expected that 20% of premises would take up superfast broadband as a result of the intervention scheme by the end of the contracts in December 2017. As take-up has been higher than expected (around 24% of premises had connected by the end of June 2016), BT offered to release early a share of the additional income generated, to be used for reinvestment. BT now expects take-up to be 30%.
- 2.29 If take-up exceeds 30% then this will trigger BT's release of further funding for reinvestment. Take up in Perth and Kinross currently stands at 26% (October 2016) and is frequently above the Scotland average which may indicate a good response in many communities to demand stimulation activities.

3. REACHING 100% - THE R100 PROGRAMME

- 3.1 The Scottish Government has announced that it is committed to reaching 100% coverage of broadband by 2021 and the R100 broadband programme has now been initiated to achieve this. In the intervening time, the definition of superfast broadband has been raised to 30 Mbps by the EU and this is now adopted by R100.
- 3.2 The purpose of this new programme – for which an additional £42m has been allocated - is to facilitate the deployment of infrastructure that will support superfast broadband connections (i.e. above 30 Mbps) to premises that will not receive such a service with existing or planned infrastructure by the end of 2021. The programme builds on the investment in superfast broadband that has been realised through the DSSB programme.
- 3.3 It has been estimated there may be around 300,000 premises to be addressed by the R100 programme in Scotland. For various reasons, including state aid requirements, it is likely that the remaining premises will be split into several lots within one or more procurements. R100 will prioritise premises currently receiving less than 15Mbps from existing operators in this exercise.
- 3.4 As part of R100, Community Broadband Scotland is likely to continue to support technology solutions (mainly wireless) in remote rural areas while accessible rural areas and small towns are likely to be serviced by operators given grant by the R100 Programme. Some urban areas that are still not covered by broadband will be supported through incentivised expansion of existing commercial deployment.

EU LEADER PROGRAMME SUPPORT TO REMOTE RURAL COMMUNITIES

- 3.5 In the context of the developing R100 programme, it is now timely to consider further support to rural communities particularly in the Rural Perth and Kinross LEADER area. These are premises that will not receive superfast broadband from the current DSSB Programme and are in areas that the R100 Programme will find hardest to reach. It is proposed that the £200,000 funding that was allocated by the Council could be matched in part by EU LEADER funding to support a new Rural Broadband project that will assist remote local communities, working closely with Community Broadband Scotland. . As the Council funding will require to be carried forward beyond 2016/17, this is subject to approval when the Council Revenue budget is set on 9 February 2017. The EU LEADER funding will be subject to the approval of the LEADER Local Action Group.

- 3.6 The project will assess the extent of existing and planned deployment of superfast broadband and the speeds likely to be achieved in communities of Rural Perth and Kinross. It will identify specified areas - based on postcode analysis - that are likely to require support because of their geographical location, technical constraints or need for connectivity for economic or social reasons.
- 3.7 Consultation will take place with communities to assess their aspirations for internet access based on their uses and describe which technological solutions may best support them. The initiative will provide technical advice and help develop feasibility studies, business cases and procurement routes for local communities.

4. CONCLUSION AND RECOMMENDATIONS

- 4.1 The report has reviewed progress on the existing DSSB programme to improve digital connectivity across Perth and Kinross. It also outlines the work now being undertaken by Scottish Government to reach 100% coverage of superfast broadband in Scotland by 2021. It suggests that, because remote rural areas are still a challenge for both the current and new broadband intervention programmes of Scottish Government, support for rural communities should continue to be provided.
- 4.2 It is recommended that the Committee:
- i) Notes the progress made to improve digital connectivity in Perth and Kinross by Digital Scotland through the DSSB programme but also the issues that remain over rural connectivity.
 - ii) Proposes that the £200,000 funding allocated by the Council is carried forward beyond 2016/17 to provide assistance for digital connectivity to the most remote rural communities now be utilised as part of a new LEADER Rural Broadband project. This will be subject to approval by Council on 9 February 2017.

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1. IMPLICATIONS, ASSESSMENTS, CONSULTATION AND COMMUNICATION

Strategic Implications	Yes / None
Community Plan / Single Outcome Agreement	Yes
Corporate Plan	Yes
Resource Implications	
Financial	Yes
Workforce	No
Asset Management (land, property, IST)	Yes
Assessments	
Equality Impact Assessment	Yes
Strategic Environmental Assessment	Yes
Sustainability (community, economic, environmental)	Yes
Legal and Governance	Yes
Risk	Yes
Consultation	
Internal	Yes
External	No
Communication	
Communications Plan	Yes

1. Strategic Implications

Community Plan / Single Outcome Agreement

- 1.1 The activities contribute to the Community Plan's strategic objectives of 'Promoting a prosperous, inclusive and sustainable economy' and the outcome of 'a thriving, expanding economy' including the enhancement of digital broadband locally to increase the capacity to access services digitally and support more local working.

Corporate Plan

- 1.2 Perth and Kinross Council Corporate Plan 2013/2018 set out five strategic objectives:
- (i) Giving every child the best start in life;
 - (ii) Developing educated, responsible and informed citizens;
 - (iii) Promoting a prosperous, inclusive and sustainable economy;
 - (iv) Supporting people to lead independent, healthy and active lives; and
 - (iv) Creating a safe and sustainable place for future generations.

- 1.3 This report relates to Objective No (iii) 'Promoting a prosperous, inclusive and sustainable economy' and the outcome of 'Thriving, expanding economy' by ensuring that all our communities benefit from improved digital connectivity. It will also support Perth City Plan to make sure that Perth City is digitally connected with access to superfast broadband to encourage business growth

2. Resource Implications

Financial

- 2.1 Perth and Kinross Council contributed £1.2M to support the roll-out of the Scottish Government Step Change (Rest of Scotland) programme. This was approved by Council on 19 December 2012.
- 2.2 The Council allocated an additional £200,000 in 2015/16 to support communities in the development of alternative solutions. It is proposed that this funding is matched by EU LEADER funding to support a new Rural Broadband project. As the funding will require to be carried forward beyond 2016/17, this is subject to approval when the Council Revenue budget is set on 9 February 2017.

Workforce

- 2.3 Project management support is currently provided by the Business Development Team within the Environment Service.

Asset Management (land, property, IST)

- 2.4 It is envisaged that the development of wireless coverage in Perth city centre will use Council's assets (e.g. lampposts, CCTV, buildings). Such use will be negotiated and agreed using the current procedures for such use.

3. Assessments

Equality Impact Assessment

- 3.1 Under the Equality Act 2010, the Council is required to eliminate discrimination, advance equality of opportunity, and foster good relations between equality groups. An equality impact assessment needs to be carried out for functions, policies, procedures or strategies in relation to race, gender and disability and other relevant protected characteristics. This supports the Council's legal requirement to comply with the duty to assess and consult on relevant new and existing policies.
- 3.2 The function, policy, procedure or strategy presented in this report was considered under the Corporate Equalities Impact Assessment process (EqIA) with the following outcome: the proposal could have a positive impact on older people, people with a disability or people on low income or not working by offering more opportunities to access services and develop social interactions. However, specific targeted activities would have to be developed to promote positive impact and address digital divide.

Strategic Environmental Assessment

- 3.3 The Environmental Assessment (Scotland) Act 2005 places a duty on the Council to identify and assess the environmental consequences of its proposals. The proposals have been considered under the Act and no further action is required.

Sustainability

- 3.4 Under the provisions of the Local Government in Scotland Act 2003, the Council has to discharge its duties in a way which contributes to the achievement of sustainable development. In terms of the Climate Change Act, the Council has a general duty to demonstrate its commitment to sustainability and the community, environmental and economic impacts of its actions. The activities in this report will contribute towards sustainable economic development, reduction of travel to access services from/to work and improved access to the internet for rural communities.

Legal and Governance

- 3.5 The consideration of the report is in line with the Council's Scheme of Administration and specifically the role of the Enterprise and Infrastructure Committee in developing measures to support and promote economic activity and to plan key infrastructure. There are no legal implications arising from the proposals contained in this report and any state aid issues will be dealt with through any procurement processes.

Risk

- 3.6 Risks and the controls required to mitigate any risks will be reported through the Council's risk management process where the Council is the lead on individual projects. The main risks in relation to the roll-out of the DSSB programme relate to the delivery of the contract to time and on budget which are dealt with in the report.

4. Consultation

Internal

- 4.1 Other services are involved and consulted upon in terms of the delivery of the DSSB programme and will be consulted in the delivery of the R100 programme and LEADER Rural Broadband project.

External

- 4.2 Community Broadband Scotland, the Scottish Government, telecommunication operators are part of the DSSB project and therefore are kept regularly informed of progress.

5. Communication

- 5.1 Communication between Digital Scotland and the Council communications teams is good and frequent.

2. BACKGROUND PAPERS

- 2.1 No background papers, as defined by Section 50D of the Local Government (Scotland) Act 1973 (other than any containing confidential or exempt information) were relied on to any material extent in preparing the above report.

3. APPENDIX

- 3.1 Appendix 1 – Glossary of Terms

GLOSSARY OF TERMS

2G Second generation of mobile telephony systems: Uses digital transmission to support voice, low-speed data communications, and short messaging services.

3G Third generation of mobile telephony systems: Provides high-speed data transmission and supports multimedia applications such as full-motion video, video-conferencing and internet access, alongside conventional voice services.

4G Fourth generation mobile telecommunications technology: Provides potential for mobile web access, IP telephony, gaming services, high-definition mobile TV, video conferencing, and 3D television.

5G Fifth generation mobile networks: These are the next telecommunications standards which provides higher capacity than current 4G, allowing higher number of mobile broadband users per area unit. This would make it feasible for a large portion of the population to stream high-definition media many hours per day with their mobile devices, when out of reach of WiFi hotspots.

ADSL Asymmetric Digital Subscriber Line: A digital technology that allows the use of a standard telephone line to provide high speed data communications. Allows higher speeds in one direction (towards the customer) than the other.

Broadband: A service or connection generally defined as being 'always on' and providing a bandwidth greater than narrowband.

Broadband Internet Access: Often shortened to just 'Broadband' is the process of connecting to the Internet and transferring high volume of data at high speed rates. Connections are measured in Kilo Bits Per Second (kbps) or Mega Bits Per Second (Mbps). The higher volume of data per second is transferred the better the connection is.

Exchange only lines: Exchange Only (EO) properties are connected directly to the exchange – there is no green cabinet between the property and the exchange to upgrade with fibre cabling. This is why superfast speeds cannot be reached by these properties until BT Openreach have installed two new cabinets – one for fibre and one for copper.

Fibre-to-the-Cabinet (FTTC): Access network consisting of optical fibre extending from the access node to the street cabinet. The street cabinet is usually located only a few hundred metres from the subscriber premises. The remaining segment of the access network from the cabinet to the customer is usually copper but could use another technology, such as wireless.

Fibre-to-the-Premises (FTTP): A form of fibre optic communication delivery in which the optical signal reaches the end user's living or office space directly.

Internet: A global network of networks, using a common set of standards (e.g. the Internet Protocol), accessed by users with a computer via a service provider.

ISP Internet Service Provider: A company that provides access to the internet.

Mobile Broadband: Various types of wireless high-speed internet access through a portable modem, telephone or other device.

Next Generation Access: Next-generation access describes a significant upgrade to the broadband available by making a step change in speed and quality of the service. This is typically thought of as a download speed of 24Mb plus and a fast upload speed.

Public hotspot: A public location which provides access to the internet usually using WiFi technology.

Satellite Broadband: Satellite broadband is delivered by a satellite in orbit around the earth which communicates with a computer via a satellite dish on the person's premises. The capability of current satellite broadband services is around 10 Mbps, however, the next generation could potentially deliver speeds of up to 50 Mbps.

Superfast Broadband: Super-fast broadband is generally taken to mean broadband products that provide a maximum download speed that is greater than 24 Mbps. This threshold is commonly considered to be the maximum speed that can be supported on current generation networks.

Wireless LAN or WiFi (Wireless Fidelity): Short range wireless technologies which allow an over-the-air connection between a wireless client and a base station, or between two wireless client