West Lindsey
DISTRICT COUNCIL
Making a Difference

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CAI.21 11/12
Challenge & Improvement
Tuesday 29th November 2011

Subject:	**Broadband Coverage in West Lindsey**

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Purpose / Summary:	To inform Members of: • The current provision of broadband internet access across the district • Initiatives to improve provision • Service delivery plans to exploit broadband technology

RECOMMENDATION(S):

1) **That Members note the contents of this report;**
2) **That Members actively encourage their citizens, businesses, and communities to register their demand for faster broadband at www.onlincolnshire.org**

IMPLICATIONS

Legal: All public bodies are legally obliged to protect all personal information they hold. Since 6 April 2010 the Information Commissioner's Office has had powers ranging from serving assessment and monetary penalty notices to prosecuting organisations that fail to protect the information they hold.

Financial: None directly in relation to this report

Staffing : None in relation to this report

Equality and Diversity including Human Rights: This report covers the inequalities experienced by West Lindsey residents and businesses in the provision of broadband services, and attempts to address these inequalities

Risk Assessment: A requirement for a risk assessment has not been identified

Climate Related Risks and Opportunities: Electronic service delivery has the potential to reduce net carbon emissions created from travel, paper, ink and postage consumed by the authority in the provision its services.

Title and Location of any Background Papers used in the preparation of this report:
WLDC ICT Strategy (September 2011)
DCMS Broadband Delivery Programme Delivery Model (September 2011)
WLDC Customer Access Strategy
DCMS Britain's Superfast Broadband Future (December 2010)
OFCOM Communications Infrastructure Report 2011

Call in and Urgency:

Is the decision one which Rule 14 of the Scrutiny Procedure Rules applies?

Yes		No	X

Key Decision:

Yes		No	X

1. Introduction

1.1 As the internet has developed rapidly over the last few years, so the requirement for high speed internet access has exposed serious limitations in various aspects of the UK telecommunications service provision model.

1.2 The adoption of new media, social networking, internet telephony, online shopping, video on demand, and now online television content has massively increased consumer's demand for bandwidth, the term used to describe the size of the link to the internet. This demand will continue to increase well into the future as an increasing number of new internet services develop into mature markets with mass appeal.

1.3 However, our first issue is that the term **broadband** is used ubiquitously to describe an array of very different technologies and bandwidths. For example a mobile telephone data connection of 300kb is described as Broadband, also referred to as 3G, but most certainly would not be applied to a household internet connection speed. Indeed, 3G mobile telephone connectivity across the district would put us in an ideal position for mobile working.

1.4 However, we have very little high speed mobile telephone coverage in the district, which itself presents us with issues which will also be covered in this report.

1.5 The most common use of the term broadband in West Lindsey, and the scenario most people can relate to, is when used to describe the speed of their connection to the local telephone exchange over the copper cabling they once used only to make and receive telephone calls.

1.6 Ironically it is the very technology that once put the UK at the top of the world communication league that now poses the biggest challenges. This is due to the age and quality of the copper cables connecting properties to our local exchanges, and also the exchange connectivity itself to the national network.

1.7 Quite simply, the financial cost of replacing the copper cabling in the ground with high speed optical cable is financially prohibitive, and not a problem that emerging nations have to face where the cost of a new installation of optical cable is similar to copper.

1.8 It is this financial reality that has driven the development of DSL technologies which provide broadband communications over copper telephone lines. This development is ongoing and has to factor in a vast number of variables in order to provide a solution to consumers.

1.9 However, DSL broadband technologies have a number of physical limitations that are, in some cases, insurmountable. Low grade copper cabling for example, or simply the distance of cable from the exchange, are both examples of situations where mass-market technology will not work, and alternative technologies must be considered.

1.10 Following a succession of national initiatives, the coalition government now aims to have the best superfast broadband network in Europe within this parliament. To help achieve this aim, some £14m has been allocated through Broadband UK to Lincolnshire which will be match funded by public and private sector purses to create a £56m capital investment in broadband technology in Lincolnshire

1.11 A request has been received from Lincolnshire County Council asking for consideration of a contribution from each of the districts towards the £4m funding required to match-fund the national allocation. At the time of writing an initial reply has been sent requesting *specific* details as to the amount that might be expected from WLDC, together with details of what outcomes this funding would help deliver within our district.

1.11 However, the national outcome is that 90% of properties get access to superfast broadband and the other 10% have access to a minimum of 2Mb. Unfortunately Lincolnshire communities are likely to represent a large part of the 10% whose experience of success will be little improvement to the status quo.

1.12 A widely held view is that the digital divide may actually get bigger as the '*haves get a lot more'*, and the '*have-nots get a little bit more*' as a result of the national Broadband UK initiative.

2. Background

2.1 Following a major national initiative, every telephone exchange in the district, eventually, was enabled for broadband provision. This 'Exchange Enablement' was helped considerably by the county council's procurement of a new high speed resilient network to service myriad locations across the county requiring many of the Lincolnshire exchanges to be upgraded with the high speed links necessary to provide domestic broadband connectivity.

2.2 All new transmission masts for mobile telephone operators, and those required to be upgraded through obsolescence and maintenance, are equipped with high speed data (often referred to as 3G) capabilities. These masts also require high speed links, and have benefited from the county wide network.

2.3 A number of areas are served by Virgin Media and have optical connections installed by Diamond Cable on behalf of NTL and others a number of years ago.

2.4 On the face of it, it would appear that there are places in our district that still have exactly the same connectivity they did 40 years ago: a single copper telephone line to make and receive calls – and little more. In the modern age this is obviously an inequality we must address, not least because our rural communities have the most to gain from the services and opportunities of the digital age.

2.5 However, other technology options exist. Satellite, fibre optic and wireless signals can all be provided anywhere on the planet – at a cost.

2.6 The challenge is to meet the ever increasing demand for bandwidth at a price people are prepared to pay.

2. Business Models

2.5 The business model for the telecommunications industry is relatively simple in that there is a significant capital investment in the form of a connectivity infrastructure which must be serviced by vast numbers of subscribers to a standard technology offering.

2.6 This business model works well in the market for the provision of broadband services over ADSL and Fibre, but does not work where there is no standard technology offering.

2.7 The challenge is to develop a business model which can meet the needs of a rural and sparsely populated area, and provide an adequate return on investment for sustainable private sector investment.

3. Coverage

3.1 It is impossible to provide an accurate figure for the bandwidth available to all fixed locations across the district. Degradation of copper, environment conditions, upgrades and new developments all have a daily impact on the statistics. What is not in any doubt is that many of our communities want a better service than they currently receive.

3.2 Using the national definition for broadband, as used by Broadband UK, of being a minimum of 2Mb, then West Lindsey has 21% of its residents and businesses only able to access a service below this minimum. This is well below the 17% average across Lincolnshire, and second only to North Kesteven as the worst district in the county.

3.3 The prospects for improvement are also bleak, with predictions for significant changes in the next 3 years better only than East Lindsey.

3.4 From a mobile perspective the picture is even worse, with very patchy 3G coverage and some locations even unable to receive a mobile phone signal of any description. The demographic of our district is such that mobile investment, other than essential maintenance, will continue to be made in overseas and urban markets where traditional business models will continue to underpin the necessary returns on investment.

3.5 The challenge is to identify a standard technology offering to provide the coverage needs of a rural and sparsely populated area.

4.   Service Implications

4.1   There is no doubt that access to high speed rural broadband would support very different working practices to those in practice. More specifically, the use of technology in remote and mobile working would be far more flexible and supportive of working directly in the field.

4.2   As it is, compromises have to be made and wasteful activity factored into many aspects of our service delivery processes.

4.3   In particular, the lack of extensive 3G mobile data services prevents direct access to corporate data systems in the field resulting in journeys to locations with good broadband speeds for connectivity to the office.

5.   Opportunities

5.1   For those that can afford it, leased lines, satellite links and private wireless facilities can be provided relatively quickly. However, this will not address the large market of consumers who want to pay around £20 per month for the 8Mb connection speeds frequently advertised.

5.2   This market requires a different technology solution, which itself presents new challenges. The biggest one being how to convince a significant number of consumers to commit to a new solution from a new provider who are unlikely to be a recognised brand. Whilst the solution costs might be much smaller in totality, the upfront costs to provide a new solution will still require an upfront investment and a low risk path to return on investment and profit to make a credible business case.

5.3   Having studied the market for suitable technologies, it is clear that rural communities can very quickly be provided with access to high speed broadband. This is not a technology problem, more so a business challenge.

6.   Priority for action

6.1   Broadband access will be a key enabler to us achieving many of the outcomes of the Corporate Plan, and underpins each of the 5 themes.

6.2   Self service access to information and electronic services, reduced carbon emissions, sustainable rural businesses, community empowerment, and sustainable service delivery all demand improved broadband provision across the district.

7.   Supply & Demand

7.1   Within the West Lindsey boundary we have a market for potential providers of wireless broadband services into communities with existing bandwidth issues.

7.2 One such provider has already invested in the core networking infrastructure necessary to provide wireless broadband on a commercial scale, and is successfully providing services to a number of residential and business customers.

7.3 We have a number of communities who are actively engaged in highlighting the results of this inequality on their lives, and who are keen to help develop a new business model to meet their demands.

7.4 East Stockwith and Scothern Parish Councils are both keen to explore the opportunities to deliver improved provision as quickly as possible.

8. Risks

8.1 The primary risk to success is that a sustainable business model cannot be realised. Even within a single provider model, a critical mass of subscribers will be required to make a solution affordable and attractive to private sector investment. Any investment will also demand a minimum contract term in order to provide assurance of future income to cover setup costs.

8.2 We must also acknowledge that as internet services continue to mature then increased bandwidth will be required by consumers to access these new services. For example, Internet TV will explode in the near future with the launch of YouView, "*everything you've ever wanted from TV in one easy-to-use box: Freeview, catch-up TV, High Definition and a personal video recorder*"

8.3 There are very many examples, especially of technology, projects funded with public monies that are obsolete within months of their launch.

8.4 The challenge is to help establish a sustainable solution for our communities that can meet the existing demands, and also adapt to meet the ever increasing future demands of the internet generation.

9. Proposal

9.1 Optical cabling to every property in the district would be the ideal outcome. However, the costs of this are prohibitive and the reality is that some communities will receive no more than a fibre connection to their local exchange. As such, alternative technology solutions will be necessary in large parts of Lincolnshire and beyond.

9.2 It would appear that there are many potential providers of alternative broadband solutions to our rural communities, so we must identify a model by which we can create a sustainable market to meet the identified demand.

9.3 Models to consider will include private sector provision and also Community Interest Company sourcing.

9.4 Experience to date has shown that our communities have different aspirations and expectations, and individual stakeholders have a definitive view on the specific form of technology solution they prefer.

9.5 Rather than WLDC engaging directly with potential providers of service, it is proposed that we provide assistance to enable our communities to help themselves through our Localism agenda.

9.6 This may result in a number of different solutions across the district, but will allow us to engage with a small number of active communities who wish to help us to help them, rather than trying to create a one-size-fits-all solution for the whole of the district.

9.7 One way we are assisting our communities is through the procurement of mobile antenna equipment for a capital investment of £11k. This will be provided to local community groups on a short term basis for them to receive demonstrations from interested providers of high speed wireless broadband. For a competitive market to become established within local communities, potential customers must have the opportunity to gain confidence in the use of a new technology before entering into a contract with a niche service provider.

9.8 In order to implement a permanent wireless broadband service, then further assistance will be necessary for the community and/or private sector partner to invest in, and build, the permanent infrastructure.

9.9 To do this we will work with our Lincolnshire partners and lobby for the £56m pot to be made available for the delivery of local solutions, not simply put into a prescriptive national procurement process which will likely not meet local needs based on traditional business models.

9.10 We will also continue to extend our programme to equip Village Halls with broadband connectivity and wireless internet access in order to provide local park-and-go access to the secure corporate wireless network and the internet. This network of touch-down points currently numbers 23 locations, and also provides access to the County Council network for LCC staff working in the field.

10. Conclusion

10.1 Broadband in itself is simply infrastructure, akin to a road. However, it is now an essential part of 21st century life and a key component in developing rural sustainability and reducing the cost of public service provision. Demand is expected to increase for the foreseeable future.

10.2 Rural Broadband presents a fantastic opportunity to demonstrate our capability as the Entrepreneurial Council.

10.3 Whilst broadband presents new ways to engage with our customers and communities, it has also created inequalities across or district which will remain for the foreseeable future.