



## Mid North Regional Development Board Submission to Backhaul Blackspots Initiative- Stakeholder Consultation Paper

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### EXECUTIVE SUMMARY

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The Mid North Regional Development Board submits that the following options in relation to competitive backhaul be considered by the Commonwealth Government. Importantly this paper provides feedback and locations about where competitive backhaul is not available but also addresses solutions to areas where there is no terrestrial broadband availability.

#### **Option 1**

Support for collaborative solutions with the South Australian government and the Central Local Government Region.

#### **Option 2**

A WiMax solution for the Mid North Region which would include microwave backhaul through either the construction of purpose built facilities or if Option 3 was progressed using fibre optic breakout points.

#### **Option 3**

Construction of new fibre backhaul from Broken Hill – Adelaide via major service centres in Central Local Government Region.

All of these solutions will provide:

1. An immediate economic stimulus in the region by construction needs, providing availability of adequate services for businesses and greater efficiency and enhance international competitiveness;
2. Better service outcomes and reduced costs to the consumer by providing terrestrial broadband where it does not exist and
3. Physical infrastructure which ownership can be transferred to the 136 533 741 Pty Ltd ("NBN Ltd")
4. In the case of Option 3 assist the Commonwealths Digital Regions Initiative by providing fibre to the node at schools site across the Mid North.

These options will provide enhanced availability and affordability of broadband across regional South Australia and in the Mid North region.

### THE REGION

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The Mid North Regional Development Board is a not for profit economic development agency jointly funded by State and Local Government to facilitate economic development in the Clare & Gilbert Valleys Council and Regional Council of Goyder. Our primary function is to facilitate private and public investment which will assist our regional communities to improve its economic, social, cultural and environmental wellbeing.



The Mid North is an extremely productive agricultural region and is renowned for its cereal crops, merino wool and viticulture. Growing and expanding industries include pigs, poultry and wind farms. Tourism is a strong industry in the mid north and is supported by an internationally recognised wine district, heritage buildings, pioneer history and the regions pleasant and varied landscape.

Agriculture is by far the strongest sector employing over a quarter of the labor force with a nation wide trend of growth in the health and community sectors. The Agriculture Commodities: Small Area Data published by the Australian Bureau of Statistics<sup>i</sup> provides that in 2005- 2006 the gross value of output from the region was:

- Regional Council of Goyder- \$96,713,576
- Clare & Gilbert Valleys Council- \$116,565,871  
\$213,279,447

In particular the Mid North region is an area of significant international trade and export with an iconic reputation recognised world wide for wine production and internationally competitive businesses in specialist manufacturing.

The general level of education and qualifications in the Mid North region is below the South Australian average with low levels of school achievement and post-school qualifications and we believe that the increase in Broadband availability and e-learning will be a valuable tool in addressing this need.<sup>ii</sup>

The majority of the Mid North's 13,000 residents live in the major towns of Auburn, Burra, Clare, Eudunda and Riverton. The regional centre, Clare, is just two hour's drive north of Adelaide.

National Highway One runs along the western edge of the region providing good links with Adelaide and major centre's to the north and west of the State including direct access along the Barrier Highway to Broken Hill in New South Wales.

The region is also identified as part of the Central Local Government Region encompassing Port Pirie, the Yorke Peninsula and Barossa.

### **BROADBAND IN THE REGION**

Residents of Clare & Gilbert Valleys Council and the Regional Council of Goyder experience relatively low ability access to terrestrial broadband. Figures supplied by the South Australia Department of Further Education Employment Science and Training (DFEEST) demonstrate that at January 2009 the population of the Mid North Region experienced the following access to terrestrial broadband:

<b>Council</b>	<b>Population with Terrestrial Broadband Available</b>	<b>Population with Terrestrial Broadband Not Available</b>	<b>Total Council Population</b>	<b>% Council Population Broadband Not Available</b>	<b>% Council Population Broadband Available</b>
Regional Council of Goyder	1762	2429	4191	58%	42%

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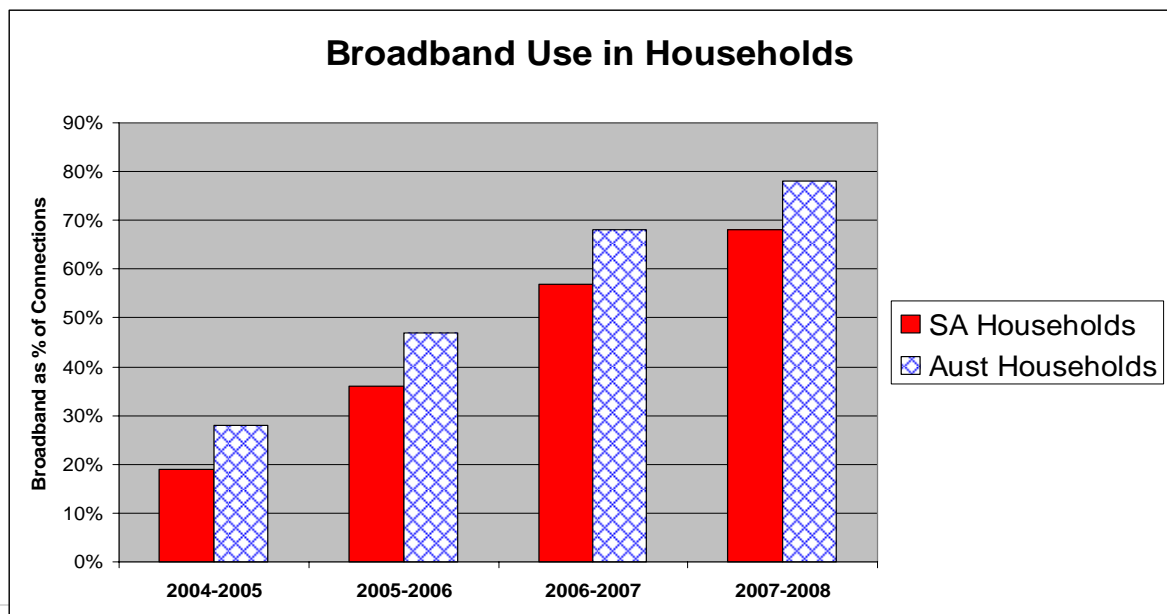
Clare & Gilbert Valleys Council	4955	3174	8129	39%	61%
<b>TOTAL</b>	<b>6717</b>	<b>5603</b>	<b>12320</b>	<b>45%</b>	<b>55%</b>

In addition the South Australian Strategic Plan Progress Report <sup>iii</sup> identifies that the Mid North and Yorke (wider State Government region) has the lowest take-up rate of internet access with 25.5% accessing dial up services and 41.1% accessing broadband services. We believe that this is a combination of the need to promote the benefits of broadband as identified in the Glasson Review and the lack of affordable, accessible and suitable terrestrial broadband.

The Mid North Regional Development Board has previously assisted the Central Local Government Region in working towards a collaborative regional solution. In 2005 we assisted in the demand aggregation for the regional project and collected 18 Residential and 177 Residential/Business registrations for broadband in the region. We, and the councils which fund our operations, provided information to the Central Local Government Region and provided input into the selection of a provider for a regional project in 2006. Unfortunately in 2007 the regional provider withdrew from the regional project which coincided with the termination of Broadband Connect.

However the partnership approach between industry, local and state government demonstrates the ability of organisations like the Mid North Regional Development Board to be at the coalface of industry development and be well placed to look at strategic regional solutions.

In our region, and we understand across most of Regional South Australia, the suitability of the product remains a specific issue and the comparison to the National Broadband usage rate is illustrated in this chart provided by DFEEST<sup>iv</sup> which highlights the gap already widening between SA Households and Australian Households.



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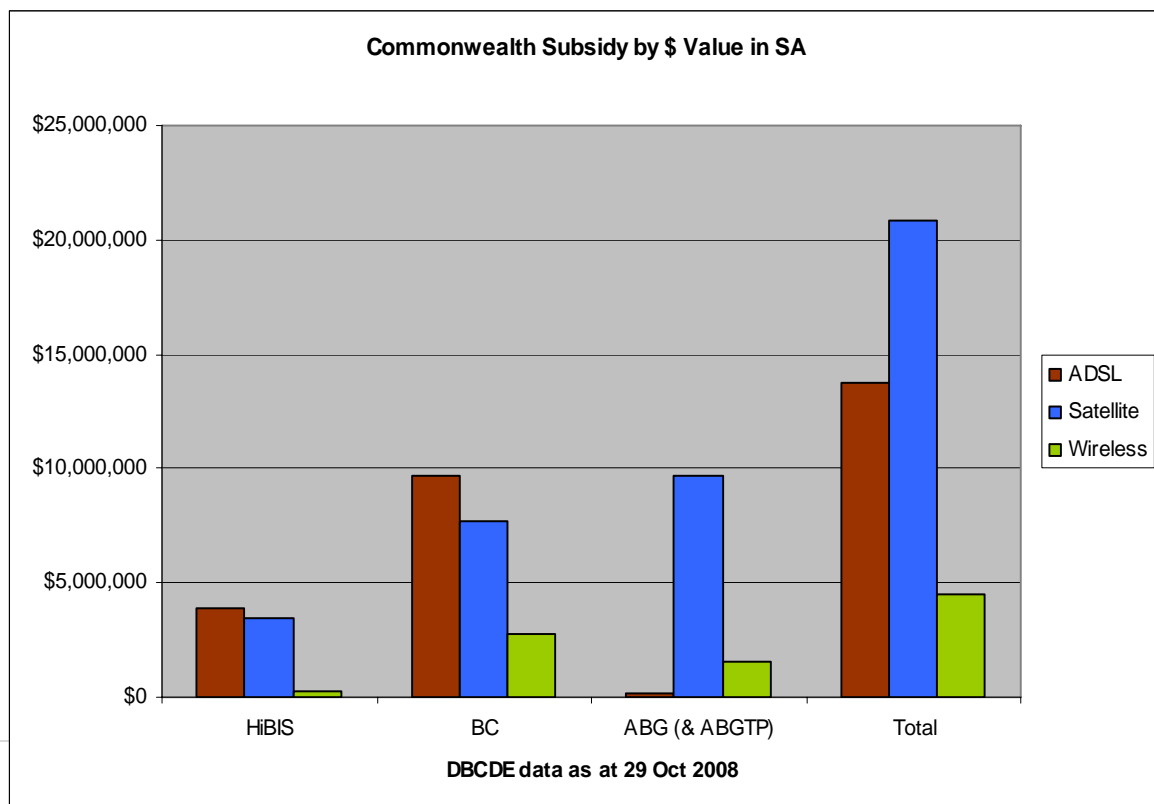


From a business perspective, and increasingly with the introduction of innovative products including the introduction of iView as a means of transmitting television by the ABC, Next G and 3G services are not sufficient or compatible to terrestrial broadband. Optus 3G promoted as on street facilities are often available in many of our regional centres and towns and often not accessible in premises.

We also contend that Satellite services should be an option of last resort, and while we acknowledge for sparsely populated pastoral areas of our region particularly north of Burra they present a viable solution, we contend that in other populated areas that a WiMax solution provides the very least for those populous areas. From a business perspective the difficulty experienced in the use of Voice of Internet Protocol (VOIP) telephony through Satellite services will also become an increasing problem.

In addition the following figures, compiled by DFEEST<sup>v</sup> from information provided by the Department of Broadband, Communications and the Digital Economy at 29 October 2008 demonstrates that the lack of a regional solution continues to erode a business case for a WiMax solution. The Australian Broadband Guarantee has been largely used to subsidy Satellite solutions which are likely to be overtaken by technological and capacity requirements into the future.

In our region we do not currently have a registered terrestrial provider under the Australian Broadband Guarantee guidelines.



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The market failure is demonstrated through the lack of enabled ADSL exchanges where infrastructure already exists. Following is a snapshot of the ADSL exchanges in the Mid North region and their status:

- Hilltown Not enabled
- Clare ADSL 2+
- Sevenhill Not enabled
- Mintaro Not enabled
- Watervale ADSL
- Auburn ADSL(identified by Telstra as future ADSL 2+)
- Manoora Not enabled
- Tothill Creek Not enabled
- Saddleworth Not enabled
- Riverton ADSL 2+
- Marrabel Not enabled
- Tarlee Not enabled
- Eudunda ADSL
- Bower Not enabled
- Bower North Not enabled
- Robertstown Not enabled
- Emu Downs Not enabled
- Farrell Flat Not enabled
- Hanson Not enabled
- Burra ADSL
- Booborowie Not enabled
- Mount Bryan Not enabled
- Hallett Not enabled
- Terowie Not enabled

Case studies in our region highlighting the need for terrestrial services include a business in Sevenhill which rents an office space at the approximate cost of \$6000 per annum in Clare in order to maintain the e-business of selling wines. This is in despite of having Satellite services, and demonstrates only one example where the lack of adequate broadband services has inhibited business growth and innovation potential. We believe that the greatest cost is cost of lost opportunity.

For the purposes of illustrating the lack of terrestrial broadband coverage we have included in this submission a confidential map provided by DFEEST which provides a snapshot of approximate broadband availability in the Central Local Government region.

**CONFIDENTIAL MAP PROVIDED BY DFEEST (Copy removed from public submission)**



### **BROADBAND SOLUTIONS FOR THE REGION AND BEYOND**

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First and foremost this submission is based on the ever increasing theme of partnership across all tiers of government and with industry as identified in the Glasson Review.<sup>vi</sup> It is predicated on the Online and Communications Council- Framework for the collaborative development and use of broadband in Australia and the Objective stated at Priority Area 1 in relation to equitable access to high-speed broadband.

Mid North Regional Development Board could provide support through facilitation of uptake and in any facilitation of Public Private Partnerships that might be identified as initiatives through the Backhaul Blackspots Initiative.

The most important future potential uses include:

- Remote Hospital and Medical Facilities;
- E-learning through the region and in particular in Secondary Schools and Tertiary Institutions;
- Potential to work with ETSA and upgrade in relation to electricity and smart grids. We believe that there is potential to work with electricity suppliers in South Australia on innovative, job creating technology in using smart grids to deliver energy to homes using digital networks.

The Study commissioned by DFEEST “Creating new markets: broadband adoption and economic benefits on the Yorke Peninsula”<sup>vii</sup> identifies the benefits of a \$2.4M investment which over five years is estimated to have leverage \$21.4M in regional benefits and \$25.5M in state benefits. As our neighbouring region we believe that a similar ratio of economic benefit can be achieved.

#### ***Regional Broadband Solutions- Option 1***

Support both the Central Local Government Region and State Government solution that was submitted to Infrastructure Australia, and shortlisted. We believe that a whole of region solution presents the best business case. We understand the bid provided for a combination of fibre and wireless solutions and the submission that was shortlisted with Infrastructure Australia had an identified cost of \$41.8M. We fully endorse the Central Local Government Region position that we should:

- Encourage a ‘Whole of Region Solution’ and ‘Regional Solutions’;
- Encourage ‘Integrated Solution’ (backhaul and broadband solutions);
- Consider ‘Backhaul Only’ providers;
- Encourage Retail and Wholesale offers.

and that where feasible we should support local providers to maximise the economic opportunities and job creation in the Mid North and Yorke region.

#### ***Regional Broadband Solutions- Option 2***

The Mid North Regional Development Board has identified a series of last mile solutions including Optic Fibre to the Node and Microwave/ WiMax links from Fibre Optic pits. These would need to be placed approximately 30 kms apart and also take into account topography and



regional demands. This can be coupled with the stated desire that NBN Ltd also include Fibre to the Node Solution with breakouts to the points. These WiMax solutions would provide competitive backhaul solutions in comparison to the communities where ADSL exchanges are not enabled. We are developing a small regional project to introduce WiMax links through most of the region and provide an immediate solution.

Indicative costing for fixed wireless broadband deployment across Mid North Regional Development Board would be \$120,000 per tower which includes power, tower construction, STN1 microwave backhaul, broadcast equipment, routers, WiMax ready for Customer Premise Equipment. We believe that our region would require five wireless towers to accommodate the topography and distance making it a project which would be the equivalent of \$600,000.

We are currently working through an application to the Broadband Development Fund (BDF) which has been set up by the South Australian Government to assist in the delivery of new broadband telecommunications infrastructure and thereby addressing gaps and deficiencies in the community for broadband services.<sup>viii</sup> That fund has been set up principally to facilitate investment in last mile infrastructure where a market outcome is not achievable without government facilitation and assistance and will provide up to 50% of the funding. Currently we have pledges of approximately \$100,000 for matching funding and are working towards fulfilling this requirement and submitting a formal application to the South Australian Government.

At this stage it is useful to note that the previous difficulties identified from the erosion of satellite services into a regional solution and the lack of a registered provider in our region for Australian Broadband Guarantee funding add extra layers of complexity.

If Option 3 and Fibre Optic Backhaul from Broken Hill was successful we would be able to reduce the cost of the last mile access and this would provide a further opportunity to work closely with all tiers of government to provide last mile access where there is a concentration of government services and in particular schools and hospitals. In particular we acknowledge the opportunity to work with schools through the Commonwealth Government's Digital Regions Initiative.

### ***Regional Broadband Solutions- Option 3***

As identified by the Australian Competition Consumer Commission Broken Hill has no competitive backhaul. We have had held discussions with the Outback (Broken Hill) Area Consultative Committee which is providing a joint submission with the Far Western Regional Development Board based out of Broken Hill to the Backhaul Blackspots Initiative. There are a number of options for provision of competitive fibre backhaul from New South Wales but one of the identified options includes the laying of fibre via the Mid North of South Australia and into the Northern Suburbs of Adelaide where we understand that there are break out points from the Inter capital City Fibre. We have included proposed route for the fibre optic cable which follows parts of the Barrier Highway and Main North Road so as to incorporate the towns in the Mid North which along that route are likely to qualify for fibre to the premises (FTTP) in accordance with Senator Conroy's Media Release of the 7 April 2009. In addition there is also a preserved, although disused, rail route between Burra and Adelaide which may provide a route for the laying of fibre optic cable. This option would allow other infrastructure operators to identify collaborative routes.



This option would allow for a number of outcomes to be simultaneously achieved:

- The building of an asset that could be transferred to the NBN Ltd and would be available to all users;
- Competitive Backhaul to one of the major regional centres (Broken Hill) which is identified by Australian Competition Consumer Commission as lacking in competitive backhaul;
- Backhaul which can be built while identifying the breakout points and installing Fibre Optic pits or huts using local government and regional development knowledge, thus saving future costs to NBN Ltd;
- Backhaul into centres which do not currently have adequate terrestrial coverage or at the very least which will enable wireless backhaul from these fibre optic break outs.

It provides an option for access from any number of providers as the last mile solution provided there is open access to the Fibre Optic infrastructure constructed.

Based on discussions with industry we believe that the route identified (of 569 kilometres) could be undertaken with an investment as low as \$5.75M which would include a direct buried fibre optic with 30 break out points using 12 cable fibre with 12,000GB bandwidth capacity (these are approximate figures). This is in comparison to a microwave backhaul option which industry sources have identified would have a capacity of 1GB.

In conjunction with the Central Local Government Region Inc we have identified key features of the towns which are located in the Mid North and classified into regional service centres which are contained in the following tables.<sup>ix</sup>

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### CLARE & GILBERT VALLEYS COUNCIL

TOWNSHIPS	TOWNSHIP POPULATION	COUNCIL OFFICE	LIBRARY	HOSPITAL	SCHOOL	MOTELS	CARAVAN PARK	INTERNET CAFES/TELECENTRE	MAJOR RETAIL	MAJOR INDUSTRIAL - COMMERCIAL	TERRESTRIAL BROADB'D PROVIDER & TYPE
CLARE	3063	✓	✓	✓	✓	✓	✓	✓	✓	✓	TELSTRA ADSL 2+;
RIVERTON	723	✓	✓	✓	✓	✓	✓	✓	✓	✓	TELSTRA ADSL 2+;
SADDLEWORTH	634	✓	✓		✓		✓		✓		
AUBURN	661				✓	✓	✓	✓		✓	TELSTRA ADSL;
MARRABEL	209					✓					
WATERVALE	293				✓	✓	✓				TELSTRA ADSL;
SEVENHILL	418					✓					
MINTARO	223					✓				✓	
MANOORA	277										
RHYNIE	362					✓					
TARLEE	288					✓					TELSTRA ADSL;

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### REGIONAL COUNCIL OF GOYDER

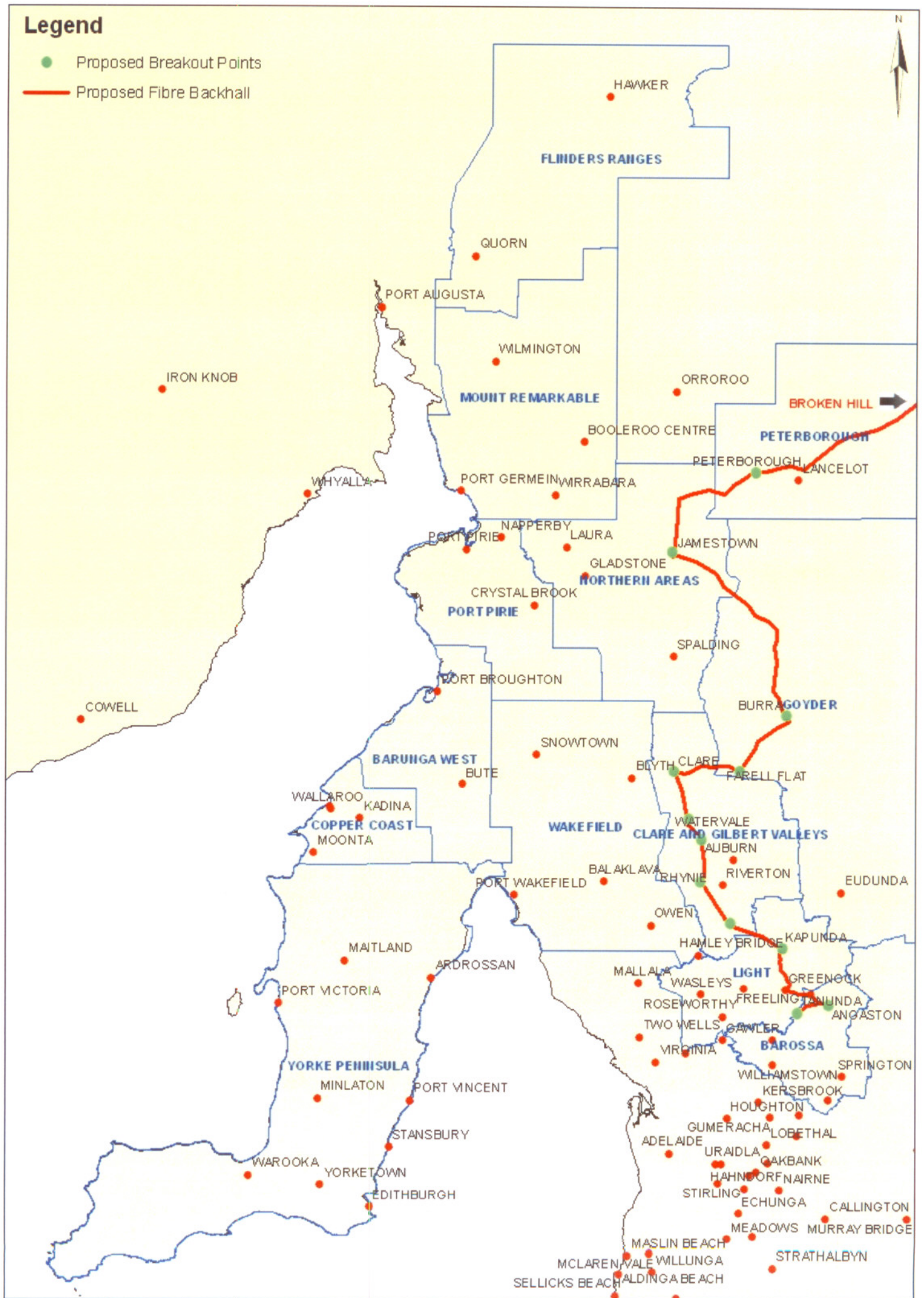
TOWNSHIPS	TOWNSHIP POPULATION	COUNCIL OFFICE	LIBRARY	HOSPITAL	SCHOOL	MOTELS	CARAVAN PARK	INTERNET CAFES/ TELECENTRE	MAJOR RETAIL	MAJOR INDUSTRIAL - COMMERCIAL	TERRESTRIAL BROADB'D PROVIDER & TYPE
BURRA	978	✓	✓	✓	✓	✓	✓	✓	✓	✓	TELSTRA ADSL;
BOOBOROWIE	267										
EUDUNDA	641	✓	✓	✓	✓	✓	✓	✓	✓		TELSTRA ADSL;
FARRELL FLAT	294				✓						
HALLETT	210										
ROBERTSTOWN	318				✓			✓			
TEROWIE	145				✓						

Those centres highlighted in red have populations over 1000 and those highlighted in green have services including health and education which represent regional services centres.

A potential Fibre Optic Route has devised in principle that transverses major road routes and intersects with major electricity transmission lines. We understand that a fibre optic route will require retransmission (and electricity supply at these sites) at approximately 80 kilometre intervals. By following major transport routes where applicable, and in particular from Broken Hill to Petersborough, we have attempted to minimise the cost of construction and provide ease of access to suitable repeater sites. It also includes a fibre optic solution in the Barossa which is identified in Outer Metropolitan Adelaide Region Planning by Planning SA<sup>x</sup> as an area of increased demand from investors, including from interstate and overseas.

# Legend

- Proposed Breakout Points
- Proposed Fibre Backhaul



# Submission to Department of Broadband, Communications and the Digital Economy



We have also provided the mapping DFEEST which encapsulates the South Australian Government view as to where there is a reasonable expectation of terrestrial broadband availability.



In preparing this submission we have worked collaboratively across Government and we understand that the South Australian Government will be providing the Commonwealth Government with information in relation to the availability of competitive backhaul across Regional South Australia.



**LOCATIONS (Item 4.1 Consultation Paper)**

As previously identified in this paper there are a number of priority areas but in relation to any tender for fibre optic route from Broken Hill to Adelaide we submit that the following areas should be priorities for the mapping of a suitable solution:

- Peterborough
- Jamestown
- Burra
- Clare
- Riverton
- Kapunda
- The Barossa Valley





### **DESIGN AND OPERATIONAL PARAMETERS (Item 4.2 Consultation Paper)**

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Any of the options identified in this paper could be implemented to comply with DCDBE's desire to issue tenders in May 09 and commence construction in September 2009.

### **OPERATIONAL AND OWNERSHIP ARRANGEMENTS (Item 4.3 Consultation Paper)**

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The Mid North Regional Development Board proposes that the availability of access to the infrastructure should be at metropolitan equivalent prices. We also contend that where feasible the quality and the speed of the broadband service should be comparable.

To enable this competitiveness the Mid North Regional Development Board believes there should be open access to the completed infrastructure, one of the key features of this submission and corporate principles of NBN Ltd into the future. One of the failings of previous systems has been when taxpayer funds have paid for infrastructure (through ABG subsidies etc) and then the access costs to other operators is prohibitive to provide competitive backhaul. Open access would address the market failures.

### **CONCLUSION**

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This submission acknowledges and emphasises the partnerships at regional and state level. During the course of preparing this submission we have received advice and information from Information Directorate- South Australian Department of Further Education Employment Science and Training, Central Local Government Region Inc and Outback Areas (Broken Hill) Area Consultative Committee. We believe that this process provides a true opportunity to establish collaborative approaches between technical and commercial interests while servicing regional South Australia.

We believe that the ability to provide local and regional solutions to the backhaul of broadband is truly a reflection of the recommendations of the Glasson Review. We commend the Commonwealth Government on providing this opportunity to provide input into the future rollout of the Backhaul Blackspots Initiative.

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<sup>i</sup> 71250DO019\_200506 Agriculture Commodities: Small Area Data, Australia 2005- 2006, Australian Bureau of Statistics 6 June 2008

<sup>ii</sup> 2009 Mid North Employment & Skills Network Region Regional Profile, DFEEST, March 2009

<sup>iii</sup> South Australia's Strategic Plan Progress Report- May 2008 <http://www.saplan.org.au/content/view/full/151/182/>

<sup>iv</sup> South Australian Government presentation to the Central Local Government Region, Information Economy Directorate, Department of Further Education, Employment, Science and Technology 13 February 2009

<sup>v</sup> South Australian Government presentation to the Central Local Government Region, Information Economy Directorate, Department of Further Education, Employment, Science and Technology 13 February 2009

<sup>vi</sup> Glasson Review, Regional Telecommunications Independent Review Committee, Glasson Review, 15 October 2008

<sup>vii</sup> Creating new markets: broadband adoption and economic benefits on the Yorke Peninsula, Report prepared for the Information Directorate, DFEEST, August 2008

<sup>viii</sup> Broadband Development Fund (BDF) Guidelines, Prepared by the South Australian Telecommunications Strategy Implementation Group, DFEEST September 2008

<sup>ix</sup> Service Centres in Central Local Government Region, Central Local Government Region, May 2009

<sup>x</sup> Planning Strategy for Outer Metropolitan Adelaide, Planning SA, December 2007