Far West NSW and Broken Hill

Digital Economy Strategy

Draft for Consultation

Developed by

Symphony3

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Geography is no barrier

One of the magnificent sculptures, on the outskirts of Broken Hill at the Living Desert
Find out more at http://www.visitbrokenhill.com.au/pages/the-living-desert-sculptures/

Geography is no barrier

Contents

Dear Friends of Far West NSW

In the Far West New South Wales (NSW) region of Australia, we believe the strengths that our community has displayed in the past are the same strengths that can be revitalised with internet technology to drive our future. The digital economy and high speed broadband will provide the foundations for Far West NSW to become a leading region in Australia (and the world) in:

- *exporting core mining skills and mining expertise across the globe*
- *developing unique rural creative industry services*
- *delivering remote education methodologies and processes*
- *delivering remote health methodologies and processes*
- *offering unique and iconic tourism experiences that encapsulate outback Australia*

Whilst the region has some social challenges, including disenfranchised low income families, high unemployment, health issues, and disengaged youth, high speed broadband like that delivered by the National Broadband Network (NBN) provides the opportunity to tackle these issues in a variety of new ways. However, unless access to the digital economy is made available to all, there is a danger of a "digital divide" developing. The Far West NSW region is committed to ensuring that from the outset we build an inclusive strategy that will address the issue of a digital divide. What is more, the processes and strategies built in this region to counter the digital divide can become a blueprint for narrowing the gap throughout regional Australia.

The rollout of high speed broadband presents the Far West NSW region with the best opportunity it has had in generations to develop our businesses and industries, and to support all our residents in the region. We wish to progress our region as a whole and truly commit to building an environmentally and commercially sustainable community. This strategy shares with you how our region intends to capitalise on this exciting new technology.

This strategy document will be available for public comment until 31 March 2012, and is considered a living, changing document. It's a digital economy strategy; therefore we will be accepting feedback on our website (www.digitalfarwestnsw.com.au) by way of the comments section on the bottom of each page. However, given the current infrastructure constraints in sections of our region, and the inability of some people to access the internet, we will also be accepting paper-based comments.

It is to be acknowledged that this strategy development has been jointly funded by RDA Far West NSW and the Broken Hill City Council. Thanks go to all the local stakeholders and community members who assisted in development of this early draft for consultation. We gratefully acknowledge the superior knowledge and understanding of this topic by our chosen subject matter expert, Fergal Coleman of Symphony3.

We look forward to your input in helping shape this strategy.

Yours sincerely

Linda Nadge	*Frank Zaknich*
Executive Officer	*General Manager*
RDA Far West NSW	*Broken Hill City Council*

Introduction

The purpose of this digital economy strategy is to provide a guiding document for the Far West NSW region to maximise use of high speed broadband and to enable the community to embrace the future digital economy with confidence.

The document outlines our overall approach, followed by sections outlining how high speed broadband will benefit the following areas:

- Business
- Households (Including Low Socio-Economic Households)
- Local Government
- Health and Aged Care
- Education
- Environment

Each section includes a future vision, discusses the current state and opportunities, and concludes with recommended actions.

http://www.youtube.com/watch?v=WLwIlsuJH3M

Wilcannia dancers, performing at the National Indigenous Land and Sea Management Conference in Broken Hill, November, 2010

Approach

The digital economy is more than pipes in the ground. There is no doubt that the infrastructure is an important enabler, however the digital economy is really about people being enabled to work together more effectively. It's about companies bringing their products and services to the world. It's about young and old receiving the health care they need no matter where in the country they live. It's about our children being able to access world class education ensuring they have a positive and productive future and can fulfil their potential.

In our approach, we view high speed broadband not as an end in itself, but simply as a medium that will allow the region to better build on and promote its existing strengths and capabilities. As Dr Tim Williams explains, "We don't talk about an electricity economy"[1]. Electricity is simply an enabler we take for granted. The digital economy and high speed broadband should be viewed in the same light.

We acknowledge the overall national digital economy strategy and have replicated the structure of the national strategy in our regional digital strategy. We have addressed the eight goals of the national strategy within this strategy[2]. This digital strategy also provides a supporting role to the broader RDA Far West NSW Regional Plan 2011-2021 (see relevant excerpts in Appendix).

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[1] http://www.huawei.com.au/connectingcommunities/
[2] http://www.nbn.gov.au/the-vision/digitaleconomystrategy/

The Framework

The framework we use is a simple Now-Where-How approach in relation to each goal:

- **Now:** What is the <u>current state</u> in the region now
- **Where:** What is the <u>future vision</u> for the organisation
- **How:** What <u>actions</u> must be taken in the coming months and years

This strategy recognises that, as with any new technologies, it is difficult (if not impossible) to understand what the overall impact of the NBN will be. Also, such is the extremely poor internet service we currently receive in the region that any digital economy strategy is heavily dependent on the rollout of the NBN in the region. The region is hopeful of being among the list of rollout sites to be announced early in the project[3]. However, it is also possible that the region will have to wait up to nine years to get the NBN. During this time, the nature of the rollout may change as new technologies become available, government priorities change, and as governments themselves change. As such, this strategy needs to remain flexible so as to adapt as new opportunities or limitations arise.

To cater for the variables, we are adopting an emergent strategy approach to the digital economy:

> "Emergent Strategy is the vision towards strategy formation that emphasises the benefits of letting the strategy emerge as things gradually become apparent. Try before you commit. Strategy is viewed as an ongoing process of constant learning, experimentation and risk-taking. It is an adaptive, incremental and complex learning process in which the ends and means are intertwined and often specified simultaneously" [4].

Artistic impression in Silverton, 20 minutes drive west of Broken Hill

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[3] The NBN rollout program can be found at http://www.nbn.gov.au/about-the-nbn/follow-the-rollout/
[4] www.12manage.com and http://www.wiwi.europa-uni.de/de/lehrstuhl/mm/ufo/lehre/kursuebersicht/StO/Mintzberg_1985.pdf

The Cluster Effect

The Far West NSW region has some core strengths and capabilities which ought to be developed and used for competitive advantage in the future. Our approach is to focus on how we can develop clusters of people and organisations around some of our core areas of expertise. The cluster development concept of economic development has been advocated by Michael Porter and others since the late 1990's and can be explained as follows:

> "Clusters are geographic concentrations of interconnected companies, specialised suppliers, service providers, and associated institutions in a particular field that are present in a region. Clusters arise because they increase the productivity with which companies can compete. The development and upgrading of clusters is an important agenda for governments, companies, and other institutions."[5]

We acknowledge that in recent years there has been much criticism of this approach and there are reports that recommend that regions should focus on global connectedness and collaboration over regional expertise[6]. There is also the middle ground that is an approach recognised by technology leaders such as Cisco. In 2010, Cisco published a paper called "Next Generation Clusters: Creating Innovation Hubs to Boost Economic Growth". They argue that with high speed broadband you can have regional clusters that are globally connected. The digital economy provides the opportunity to have regional clusters in the most remote areas that are inter-connected to the wider world. This is the thinking we have adopted with the Far West NSW and Broken Hill Digital Economy

Strategy. Silicon Valley in California is perhaps the best known example. A key part of the success of Silicon Valley is its connectedness to the global world. We will maintain and develop core skills and expertise within our region but also be open enough to learn from, collaborate, and share our expertise with the wider world.

Finally, in presenting this strategy, we feel it is important to show our community and the broader world that we are already embracing the digital economy; we are an innovative and creative community; and we can go along way with limited resources. We want your help in developing our strategy.

We have developed a digital economy strategy that is digital and web-based. It is built on free Wordpress blogging software. We have used a $200 digital camera to record our interviews with the community. We have uploaded the interviews on YouTube and embedded them into the strategy itself. These videos illustrate that the ideas in this strategy are those of a broad section of the community. We encourage you, as an important member of our community, to participate and share your thoughts. You can comment on each page on the website using the comments feature. If you have additional ideas, videos or other useful information for our region's strategy, then please feel welcome to send this to us. If the people of Iceland and Egypt can crowdsource their respective constitutions, we can collaborate on ideas for our digital economy[7].

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[5] http://www.isc.hbs.edu/econ-clusters.htm.
[6] http://www.washingtonpost.com/national/on-innovations/industry-clusters-the-modern-day-snake-oil/2011/06/19/gIQAMtx3EI_story.html.

[7] See http://www.guardian.co.uk/world/2011/jun/09/iceland-crowdsourcing-constitution-facebook and http://spot.us/pitches/986-the-cloud-in-egypt-help-or-hype/updates/1072-constitutional-crowdsourcing-site-launched [Accessed 14 November 2011].

Digital Economy Goals

Business

By 2021, businesses in the Far West NSW region will have the skills and expertise available to them, either within their business or in the community, to enable them to use the internet to run their businesses more efficiently and to expand into new global markets. Furthermore, by developing these internet skills[8], we envisage new businesses emerging in the region to take advantage of new opportunities presented by the digital economy.

This section has been divided into five business sub-sections and deals with the current challenges and opportunities for each section. The digital economy will provide great opportunities for specialised and unique businesses and the aim of RDA Far West NSW is to build those specialised and unique businesses within our identified clusters (creative industries, mining, tourism and also in remote health, and remote education which are covered in the health and education sectors).

The five sub-sections are:

- Creative Industries
- Mining
- Tourism
- Small and Medium Enterprises
- Agriculture

The resulting business actions are outlined at the conclusion of the detailed sections.

Teleworking is specifically considered in relevant sections. It is a simple concept but we believe it can greatly assist business in Broken Hill and the Far West NSW region. Teleworking includes "work undertaken at home, use of mobile devices in transit or at a different place of business (telecentres)"[9]. In our region, extensive use of fly-in, fly-out and drive-in, drive-out work arrangements has been linked to the decline of population in the region, removal of business and government services from the region, and the general hollowing out of inland Australia as the population seeks to find work and social opportunities in the major coastal urban centres.

Technology (including teleworking) offers our region a solution to this phenomenon and could help to increase availability and retention of skills in the region and facilitate population growth.

Cotton harvesting, Menindee, 2011

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[8] *We use the term 'internet skills' broadly. It includes technical knowledge, digital marketing knowledge, understanding of changing business models and innovation.

[9] National Digital Economy Strategy, p. 6, http://www.nbn.gov.au/the-vision/digitaleconomystrategy/

Creative Industries

The creative industries offer Broken Hill and surrounds an opportunity to develop new industry and business in the region. The skills, expertise and the infrastructure required to develop these industries already in exists in our region. We have broken this section into 3 categories:

- Artists and Art Galleries
- The Film Industry
- The Creative Industries and Innovation

Actions

What do we want to do	Why	Who will do it	When	Resources
Develop the Broken Hill Film Studio as a high speed broadband test site.	This will show the potential of the internet and kick-start the development of the film precinct.	BHCC[10], RDA[11] Far West NSW	July 2012	Funding will be actively sought
Undertake a feasibility study into development of a creative business hub in the Film Studio.	This will develop a single location for creative professionals to work, meet and collaborate.	BHCC	July 2012	BHCC, RDA Far West NSW to facilitate grant funds.
Continue to collaborate with local artists and organisations to develop an annual arts festival for Far West NSW, and aim to link with Australia's first solar art exhibition in Broken Hill.	An identified project exists and can be promoted via digital marketing.	RDA Far West NSW will continue to coordinate, assist, other community groups.	September 2012	Creating local organising group early 2012.

Pete Blasina, the "Gadget Guy", in Broken Hill addressing school students on technology trends, 2010

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[10] BHCC refers to Broken Hill City Council
[11] RDA refers to Regional Development Australia in Far West NSW

Artists and Art Galleries

Current State and Future Vision

Broken Hill and the Far West NSW region is already renowned for world class artists such as the [Brushmen of the Bush,](#)[12] and regional art galleries display works of indigenous artists such as Clifford Possum Tjapaltjarri, Michael Nelson Tjackamarra, and William Sandy. High speed broadband provides an unprecedented opportunity for today's artists to share their art with a world audience. Broken Hill is known for its cluster of artists, and there is no reason why local artists cannot work more closely together and pool resources to promote Broken Hill and the Far West artists as a collective. This would also entice tourists to the region.

High speed broadband will also make it possible to have artists present to Broken Hill audiences virtually via web conferencing. Bruce Tindale, Manager of the Broken Hill Art Gallery spoke to us at length about the possibilities. In reverse, artists in the Broken Hill area will be able to deliver talks on their work to audiences anywhere in the world via the virtual medium.

Australian Indigenous art is world renowned. High speed broadband will enable virtual art classes to be delivered to students anywhere in the world. This could provide an additional revenue stream to artists who may not earn enough from selling paintings.

With broadband internet, artists will have the opportunity to adapt traditional or classic art skills such as painting and sculpture to newer digital arts. Digital artworks can easily be shared with people from around the world, meaning that artists can show their creations to a much bigger audience. Other communication tools, including internet TV and social media, will enable our Indigenous people to enhance the marketing and development of their art works.

[12] http://en.wikipedia.org/wiki/Brushmen_of_the_Bush

The digital economy will provide an opportunity for some artists to supplement their income by providing graphic design services to local businesses. This will require some reskilling to transfer their artistic skills to a new medium and training courses need to be made available. Acquiring these new skills will allow artists to stay in Broken Hill and also provide additional artistic and creative skills to small business. At present, graphic design skills are not readily available in the area, resulting in a lot of graphic design work being sent to Sydney and Melbourne for completion.

The Film Industry

Current State and Future Vision

The Far West NSW region has provided the backdrop for some world-famous movies including 'Mad Max II', 'Priscilla Queen of the Desert' and 'Mission Impossible II'. As the [Film Broken Hill website](#) points out, this is due to a wide range of factors including:

- Easy access to the outback
- Landscape
    - Semi-arid desert with red dust, scrub and saltbush
    - Endless blue sky
    - Rocky gorges and waterholes
    - The tranquil Menindee Lakes system
    - The beautiful Darling River
- Architecture
    - Grand Victorian buildings
    - Industrial buildings from the mining industry
    - Timber shearing sheds and corrugated iron houses with garden and rock features constructed from ore pulled from the ground
- Low costs

The region's leaders, and in particular the Broken Hill City Council, have recognised these factors and even before the

announcement of the NBN, developed a plan to build a vibrant film industry in the region.

Central to the development of this industry has been the opening of the new Broken Hill Film Studio[13]. This major project saw the renovation of the old Central Power Station into a large studio warehouse. The new studio provides a remarkable opportunity for the city to reinvigorate itself and to generate significant revenues as a result. The film studio is forecast to have an economic impact of $23m over 10 years and to support around 30 full time equivalent (FTE) jobs.

While the studio can obviously be leased to film production companies, it can also be utilised in a variety of other ways. In developing this strategy we visited the studio and spoke with Film Broken Hill manager Lyndall Roberts about using the NBN to maximise the opportunities for the studio, http://www.youtube.com/watch?v=MNqzCTnhC60 . A major issue is internet access to the Film Studio, http://www.youtube.com/watch?v=A_E2czNgsVg .

While the Film Studio managers are frustrated by the current internet service, they are excited by the potential of high speed broadband and have considered how the NBN would greatly assist with the project, including the ability:

- To send large film files electronically to editing staff around the world;
- For local people to use the facility to create and produce their own IPTV[14] channels and perhaps a radio station;

- To have high speed wireless access available to tourists and short-term workers within the whole studio precinct – it is envisaged that many of the visitors will be creative people themselves and if they are provided with internet access will be likely to share their experiences in real time via social media or in near real time via personal blogs[15], vlogs[16] and websites.
- To develop video training courses within the studio precinct – for example, a tie-up between the film and mining industry could lead to mining IPTV channels;
- To develop a premium tourism experience that only Broken Hill could offer based on its iconic 120 year mining history utilising existing technology, like that developed by the mining school at UNSW – for example, tourists could enjoy a thrilling virtual underground mining experience in the peak tourism season or workers could benefit from excellence in virtual reality mining and emergency safety training at other times.
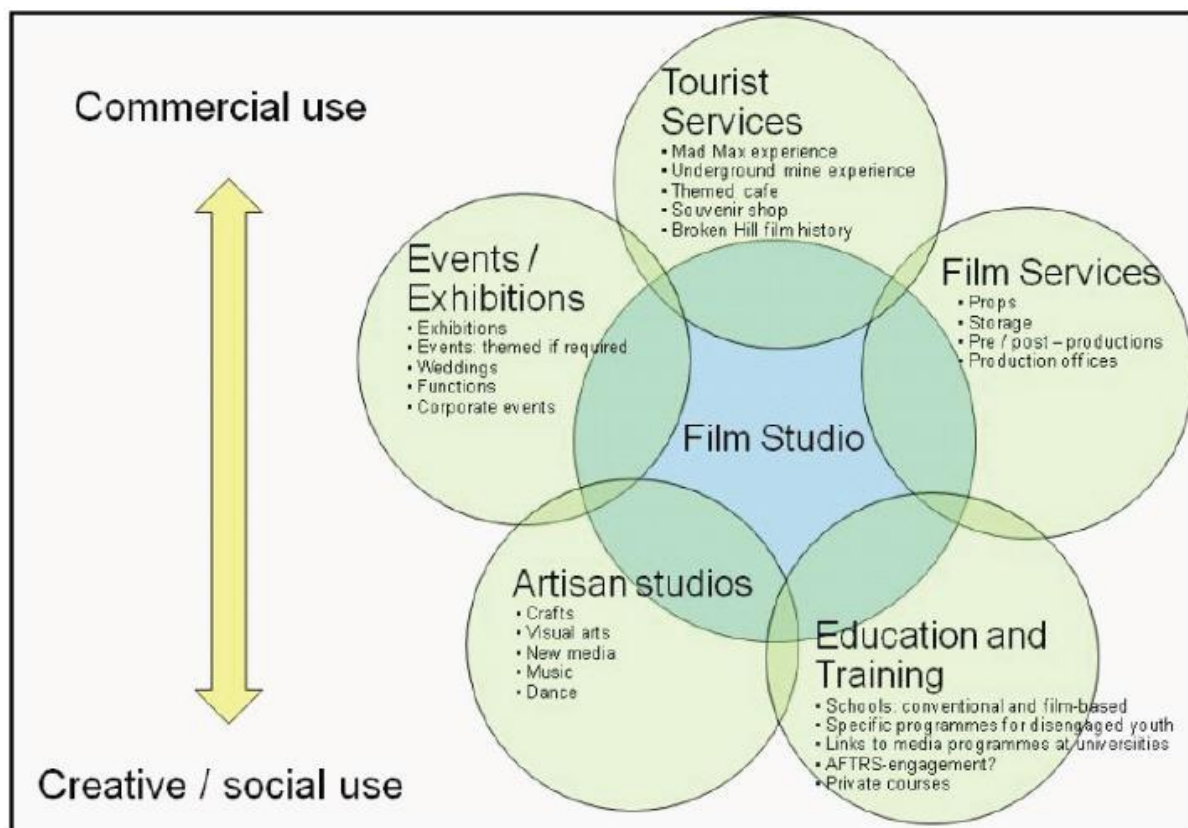

Inside the Broken Hill film studio, 2011

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[13]

http://www.brokenhill.nsw.gov.au/images/documents/brokenhill/mig/45819-Broken_Hill_Film_Studio_and_Precinct_Business_Plan_Report_Presentation_July_2010.pdf and http://www.brokenhill.nsw.gov.au/images/documents/brokenhill/mig/43338-BrokenHillFilmStudioandPrecinctBusinessPlanSummary.pdf

[14] IPTV is the delivery of television services using the internet.

[15] Blogs, a blend of the term "web log", is a type of website that allows people to access and update with comments and information (like the one we are proposing for our Far West NSW and Broken Hill Digital Economy Strategy on wordpress.com)

[16] Vlogs, like blogs, but encompassing video clips. Coined from the term "video blogging"

Broken Hill film studio – future development plans

Creative Industries and Innovation

Current State and Future Vision

The creative industries can bring a range of additional benefits to the area beyond mere film and art income. An additional benefit of having a creative cluster in the community is that they can share their creativity, innovation and imagination with the overall business community. The creative spark and an ability to think laterally will become an ever increasing asset in the global digital economy.

An example of this innovation and creativity in the area is Jason King, owner of Bells milk bar. A visit to his milk bar is like stepping back into the late 1950's and his shop has become a favourite destination for visitors to Broken Hill. He has successfully leveraged the internet to sell souvenirs and other fifties memorabilia. Creative and innovative people, like Jason, are essential to the creation of a vibrant community. For example, as well as

running his own business, Jason is developing an annual film festival in Broken Hill, and is on a committee that is looking to reinvigorate a local shopping precinct. Central to both ideas is the use of the internet. Providing people like Jason with access to high speed broadband is essential. It enables them to unleash their creativity and to connect with like-minded people around the world

As Tom Friedman, the author of "The World is Flat" noted in the NY Times[17]:

"Today, just about everything is becoming a commodity, except imagination, except the ability to spark new ideas. If I just have the spark of an idea now, I can get a designer in Taiwan to design it. I can get a factory in China to produce a prototype. I can get a factory in Vietnam to mass manufacture it. I can use Amazon.com to handle fulfilment. I can use freelancer.com to find someone to do my logo and manage my backroom. And I

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[17] Tom Friedman, NY Times Editorial, 20 March 2010

can do all this at incredibly low prices. The one thing that is not a commodity and never will be is that spark of an idea."

With the creation of the film industry precinct area, there is an opportunity to create a "working hub /future workplace" in the film studio or surrounding precinct. This workplace would embrace hot-desking and an open environment that lends itself to collaboration, co-creation and innovation. These new workplaces are currently available in some of the major cities. An example is [Hub Melbourne](), which describes itself as "a professional member community that enables innovation through collaboration. We host co-working spaces, curate experiences and catalyse connections for diverse individuals and organisations." The film studio project provides an excellent opportunity to set up a similar workplace that would fit well with the needs of the creative services industry. Hub Melbourne can be approached to help bring the hub concept to Broken Hill as the owners are interested in expanding the franchise to regional areas.

Mining

Current State and Future Vision

The mining industry has traditionally been the major source of employment in the region. While this has slowed in the past few decades, mining is still a significant employer in Broken Hill and throughout the region. Major mineral deposits in the area suggest that mining could see growth in the coming years (see the RDA Far West NSW Regional Plan 2011-21 [http://www.rdafarwestnsw.org.au/default.asp?PageID=RegionalPlan]() , Economic Update for Far West NSW Nov 2011, [http://www.rdafarwestnsw.org.au/default.asp?PageID=WhatsNew]() .)

The mining sector can utilise high speed broadband in myriad ways that would benefit employees, individual companies and the community at large.

Examples include:

- Reducing the number of 'fly-in, fly-out' employees in the region by using NBN enabled services such as reliable VOIP[18], IPTV, and online entertainment (games, etc) – these are enhancements that will improve the quality of life for new employees as well as existing permanent residents who currently do not have access to these services because of poor infrastructure;
- Companies that operate in multiple countries, such as Perilya Ltd, sending large data sets around the world via the internet;
- Sharing the mining expertise that exists in the community around the world using video conferencing
- In the longer term, virtual mine tours could be created to help attract tourists to the region as well as virtual tourists
- Video conferencing and virtual tours could be used to deliver remote education to students around the world, particularly in mining related courses. For example, mineral deposits could be taken from the ground and shown to students around the world

See Perilya's video clip on how high speed broadband can facilitate employee engagement, operations and improved communications, [http://www.youtube.com/watch?v=M5tIm5grVN8]() .

Heritage from a century of mining, Broken Hill

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[18] VOIP is the ability to use the internet for voice communications.

Actions

What do we want to do	Why	Who will do it	When	Resources
IT professionals to form a network to facilitate information sharing on benefits of high speed broadband, assist with removal of barriers to increased use of technology, provide awareness sessions (e.g. cloud services, use of social media). IT professionals to work with the mining industry to find solutions to enable management of large data files, (e.g. exploration and geological data).	Education on the benefits of the NBN and internet. Many managers are overly concerned about loss of control, inability to supervise staff, employees wasting time, and fears about data security and privacy. Often manager don't have the knowledge to make the best ICT[19] decisions for their organisation. Current internet capacity constraints impede efficient data management.	Local IT professionals. These are business opportunities for local service providers.	From 2012	Local IT professionals
Assist with the business to business interface between regional suppliers to mining companies and also procurement from global sources.	Some local businesses still use fully manual systems; others need e-commerce support.	Local IT professionals	From 2012	Local IT professionals

Tourism

Current State and Future Vision

Whilst the Far West NSW region currently receives 200,000 visitors per annum, the tourist industry in the region is not as sophisticated as many other areas.

The digital economy can help to grow the tourist industry mostly through raising awareness of what the region has to offer. This complements some of the other areas of this report including:

- Rebranding of Broken Hill – social media and the internet could, and should, be central to the relaunching of the brand. Smaller tourist operators who understand the internet and social media can "piggyback" on the overall rebranding to promote their own individual businesses
- Virtual mining tours as previously mentioned. Virtual tours range from:
  - Simple panoramic views that can promote the area (see for example Uluru virtual tour[20])
  - More complex and immersive virtual tours using sophisticated software. Tools like secondlife.com have been trialled and used by large companies and institutions (IBM, Dell MIT) to provide virtual training and are slowly bringing virtual lives to a mainstream audience. This technology will continue to improve and gain traction with users as broadband becomes ubiquitous
- Providing public wi-fi access to visiting tourists is essential in the era of social media – these tourists are likely to post videos, pictures and comments to Facebook and Twitter pages in

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[19] ICT refers to information and communication technologies
[20] http://embed.panedia.com/vst/vtplayer?map=pwbdpllf

real time if they have access to the internet. This word of mouth marketing via the internet is a new channel for generating more interest in Broken Hill as a tourist destination
- Live-casting/web-cams of key attractions will promote the region. Examples include: wildlife webcams at watering holes where animals congregate, live casting of indigenous music performances

Actions

What do we want to do	Why	Who will do it	When	Resources
Encourage coordinated use of the Broken Hill brand amongst businesses and community organisations so as to send a clear and consistent message about Broken Hill to tourists and prospective visitors	Currently the region is not optimising the tourism opportunities available to it	BHCC, tourism service providers.	Ongoing	BHCC, tourism service providers
Setup of web cams at natural areas of significance e.g. Menindee Lakes.	Highlight beauty, expanse, and biodiversity of our natural environment.	RDA Far West NSW to seek interest from Menindee based tourism operators.	During 2012	Tourist associations in region, other supporting organisations.
Create an environmental blog about Menindee lakes and the prospective listing of a Ramsar site in the region (see www.ramsar.org).	Encourage environmental improvements, tourism.	RDA Far West NSW to facilitate with local organisations.	During 2012	Community stakeholders.

Small and Medium Enterprises

Current State and Future Vision

The importance to businesses of embracing the digital economy cannot be underestimated. In fact, with or without high speed broadband, no business can afford to ignore the internet in their strategy. This was emphasised in a recent report from McKinsey[21] based on research of over 3000 small and medium enterprises worldwide:

"All business leaders…. should put the internet at the top of their strategic agenda. Business leaders must optimise the benefits gleaned from the internet through innovation and change. It is no longer a choice, given that many businesses face competitors who capitalise on the power of the internet to innovate business models. Business leaders should…. systematically review how the internet allows them to innovate more aggressively and even reinvent their business models to boost growth, performance, and productivity. In particular, businesses should constantly try to identify up-and-coming internet trends that have the potential to increase the impact of their efforts…"

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[21] http://www.mckinsey.com/Insights/MGI/Research/Technology_and_Innovation/Internet_matters.
These findings tally with another McKinsey report on Web 2.0 usage , Web2.0 finds its payday
http://www.mckinseyquarterly.com/The_rise_of_the_networked_enterprise_Web_20_finds_its_payday_2716
 and with a recent Deloitte report on Australian business use of the internet: http://www.connectedcontinent.com.au/

Some key findings in the report included:

- 10% increase in productivity for small and medium businesses from internet usage
- 2.6 jobs created for every job lost
- 75% of internet impact arises from traditional industries
- Small and medium businesses heavily using web technologies grow and export two times as much as other businesses

The McKinsey report emphasised that the internet is still in its infancy, and that we can expect even greater changes and opportunities in the coming years. The NBN provides the opportunity for businesses in the region to put the internet at the centre of their future strategies and to grow their businesses.

While the literature illustrates why Far West NSW businesses (and Broken Hill businesses in particular) should be embracing the internet, the business community has identified a shortage of expertise in areas that are vital to online success. These include:

- Graphic design and online branding capabilities – many companies send artwork to graphic designers in Sydney and Melbourne as the skills are not available in the region (e.g. Pro-Hart gallery);
- Understanding of ecommerce (for example, how to set up online stores, the implications for traditional business models);
- Digital marketing expertise (including search engine optimisation, social media marketing);
- Change management skills;
- Teleworking opportunities.

As such, the region must start developing these capabilities within the business community.

Internet services like cloud computing[22], video, online collaboration tools and the digital transmission of large data files are increasingly common in urban areas. Unfortunately, the Far West NSW region lags behind in all these areas. The current digital infrastructure makes these services unfeasible in the Far West NSW region and it stops innovation and creativity. For a region that is used to finding solutions to problems, it is hard to accept that solutions are beyond our reach until we gain access to high speed broadband.

The region and the city of Broken Hill have some new generation business owners who already have a good understanding of how to leverage the internet. One successful company, which is maximising use of the internet, is Tri State Safaris[23]. Bells Milk Bar and Accidently Outback, two innovative local businesses, are also using the internet to grow their business effectively by reaching more potential customers. Click on the links to these videos of locals who are already using technology for their business, or who have grand ideas for the future when the enabling technology is rolled out ...
http://www.youtube.com/watch?v=1QCFjoLWRCg,

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[22] Cloud computing is the term used to describe the growing tendency to deliver computing services over the internet (mainly software, but also some hardware services like data storage) as in the future we are more likely to access services through third parties.
[23] http://www.tristate.com.au/html/s01_home/home.asp

http://www.youtube.com/watch?v=mgHgN6teUgg,
http://www.youtube.com/watch?v=KnIWtVgMT38)

Actions

What do we want to do	Why	Who will do it	When	Resources
Provide education about uses of high speed broadband to the business community – for example, via workshops and seminars, showcasing some of the best online businesses in the area via case studies and inviting those businesses to present at events to other local businesses.	To learn the benefits and enable leveraging of technology to promote growth in business, employment in the region.	Broken Hill Chamber of Commerce[24] and RDA Far West NSW, Enterprise Development Centre[25], others	Throughout 2012 and beyond	Local skills – and we will seek to outsource mentoring and other services as opportunities permit.
Development of future workplaces (like Hub Melbourne) in Broken Hill.	Hub Broken Hill can help budding entrepreneurs and inspire new business.	RDA Far West NSW, others	2012	Future discussions with BHCC, Central Darling Shire Council, others
Development of business specific training to put together a training curriculum for local businesses. This should include best practice in business.	To ensure our local business enterprises have knowledge of latest technology and can use it.	Broken Hill Chamber of Commerce, Enterprise Development Centre, RDA Far West, BHCC, others.	Throughout 2012	Australian Flexible Learning Framework[26], others
Establish networking events to share experiences with technologies including cloud services, social media, and online business and e-commerce.	To develop and embed knowledge and skills at the local level.	Local IT professionals to start regular networking events.	Throughout 2012	Local professionals employed in ICT and technology roles, others.
Completion of film studio and update the plan to develop a creative precinct around the studio grounds.	(See Creative Industries section)	BHCC	July 2012	BHCC
Create virtual art galleries and exhibitions – ensure global reach and awareness to facilitate development of new businesses in region, attract creative industries businesses, facilitate tourism growth, and contribute to innovation in the arts.	Promote our arts and iconic tourist attractions from the region online and assist with economic growth and development.	BHCC Regional Art Gallery, other galleries.	During 2012 and beyond	Local resources and funding opportunities.

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[24] www.businessbrokenhill.com.au
[25] http://www.bhedc.com.au
[26] www.flexiblelearning.net.au/

Agriculture

Current State and Future Vision

Agriculture is one of the areas where internet technologies can be utilised to great effect. High speed broadband enables the collection of large amounts of data. For agriculture this can be vitally important as it enables better use of scarce resources.

The CSIRO and the University of New South Wales currently have a Smart Farm in operation in Armidale New South Wales.

As the University of New South Wales states on its website:

"The ability to remotely monitor, evaluate and manage much of a farm's operations has the potential to provide enormous gains around inputs and productivity. Spatially-enabled tools and techniques underpin Sustainable, Manageable and Accessible Rural Technologies, or SMART Farming that will increase crop and pasture yields through better targeting of water and/or fertiliser inputs and increase livestock production through improved animal management and increased pasture utilisation. SMART Farming also offers the means to achieve improved environmental outcomes through highly efficient use of resources; spatially-enabled technologies can reduce the water and carbon footprint of farming.

Menindee grapes

Broadband connectivity takes SMART Farming to a whole new level. SMART Farmers will be capable of accessing the best, external, operational support informed by contemporary data exported from distributed networks of soil, plant, livestock, machinery and environmental sensors."

For more:

http://www.une.edu.au/smart/nbnsmart.php

http://www.une.edu.au/une-nbn/presentations/july/david-lamb.mov

In early 2012 we will be talking to the larger agricultural businesses in our area and seeking their specific feedback on how we may engage with SMART Farming techniques. This section will be updated in the final report due out 31 March 2012.

Actions

What do we want to do	Why	Who will do it	When	Resources
Consult with major agriculture companies in the region to discuss opportunities due to future access to high speed broadband and suitable actions to be in put in place.	Drivers include the Murray Darling Basin Plan (also out for public consultation) and the region's desire to assist with environmental improvements in the Menindee Lakes and the Darling River	RDA Far West NSW	March 2012	Internal

Households

Current State and Future Vision

The end goal is to see every household in the Far West NSW region provided with high speed broadband access and education on the benefits of high speed internet, and how to take advantage of those benefits. Far West NSW has a high proportion of households that fit into the categories of low income, aging, indigenous and isolated. The challenge for leaders in the region is selling the vision of what access to high speed broadband can enable and how the digital economy will improve their lives in many ways.

Due to the extremely poor internet coverage in the area, this will be a bigger challenge than in other regions. Those with adequate ADSL connections are already using tools like Skype, an online video conferencing program, YouTube and Facebook for social networking. However, due to the low speeds and inconsistent reliability of the internet in the Far West NSW region, many households are yet to reach a stage where they have sufficient knowledge of the tools that are available and as such find it difficult to envisage how high speed broadband will empower their lives. There are people in the community who have a negative perception of the internet, and the NBN due to internet access promises made and broken in the past by internet service providers. However on a more positive note, as one local remarked, it is a case of a large percentage of the population "not knowing what they don't know". If the awareness of the potential is increased, then people are more likely to become engaged.

Encouragingly, there are also residents we spoke to in Broken Hill who understand the potential of high speed broadband. One example is the retired couple Ken and Frankie, who came to our briefing session. Ken was taking a senior's class on computers and both he and his wife well understood the value and potential of an economy powered by high speed broadband.
http://www.youtube.com/watch?v=bRqnp7f4OsM .

If we apply these benefits to the Far West NSW region specifically we can see how it will foster a more vibrant community.

Actions

What do we want to do	Why	Who will do it	When	Resources
Provide high speed internet access to new residents to the region to encourage permanent relocation, rather than find alternative fly-in fly-out arrangements as acceptable. High speed broadband can help to reduce 'fly-in, fly out' among professionals in the mining and health sectors. The Far West NSW population decline can be reversed.	Current lack of high speed connectivity. With a lower cost of living, fast internet and a great sense of community, families will find Broken Hill and Far West NSW a more appealing place to live.	Marketing by BHCC, Central Darling Shire Council others in region.	Throughout 2012	Social media, websites, literature produced for regional marketing, target grant programs.
Ability to buy online. Families moving from larger urban centres will no longer be	Greater access to goods and services online is desired. Also, local	Broken Hill Chamber of Commerce,	Throughout 2012	Identify grants to (a) support training for local

frustrated by the lack of variety in rural towns in terms of shopping. High speed broadband will make it more compelling to live in rural areas. Local shops can gain the skills and technology necessary to prosper in e-retailing.	businesses can prosper by accessing larger markets.	Enterprise Development Centre, others.		businesses in e-commerce and (b) engage households in use of online technologies
Provide residents with the ability and knowledge to learn online and reach a greater variety of education courses, communicate globally using social networks, access entertainment services, engage with technological advances in 'smart homes', access health and other specialist services – these are just some of the growing list of lifestyle improvements being demanded by residents in our region.	We seek economic growth in our region, but we also want the quality of life and social engagement for individuals in our region to be the best possible. We want lifestyle in our region to be made more enjoyable, rewarding due to the enabling features of technology.	BHCC, Broken Hill Chamber of Commerce, EDC, other community organisations and volunteers, some registered training bodies.	Throughout 2012	BHCC Library kiosks, staff, internet connections, various supporting grant funds.
Develop a formal course that is offered to the community "The Digital Household". This course will be developed and marketed by both the local TAFE and BHCC. The courses should be offered free of charge. The course is to accelerate knowledge of what to do with high speed broadband.	It is unclear whether the digital hub funding will be provided beyond the first 40 NBN sites. The local councils need to provide leadership in this area and in conjunction with training need to market the benefits of engagement with the NBN to households.	TAFE, BHCC, others will be included, e.g. Central Darling Shire, Village Committees in Tibooburra, Silverton.	During 2012	Funding assistance will be sought.

LOW SOCIO-ECONOMIC HOUSEHOLDS

In the Far West NSW region there are a large percentage of households suffering because of high unemployment, substance abuse, violence and poor health. In some cases, dozens of not for profit and government organisations fly-in and fly-out of rural communities where there are only a few hundred residents. The cost is enormous and the positive impact is negligible.

With high speed broadband connectivity some of the people assisting these communities (and highlighted in various video clips, see the education section) believe there is a real opportunity to:

- Remove the fly-in, fly-out (and drive-in, drive-out) mentality of support organisations. Designated social workers could live within these communities and be available to liaise with subject matter experts located elsewhere using video-conferencing and telehealth tools. The benefits to the households would include:
  - Having somebody living in the community permanently with whom they could build a level of trust. Many social workers would be more prepared to live in the community for a period of time if they could remain connected to the outside world via internet. This is perhaps one of the biggest benefits high speed broadband can bring to these communities

- o A person who understands their culture. Often, experts who fly-in and fly-out and drive-in, drive-out of communities are insensitive to the culture and needs of the people whom they have been assigned to help. The professionals concerned are often not aware of the social norms of these communities
- o Moving beyond the 9 to 5 culture of support. Most support organisations deliver support during normal working hours. However most of the social issues that affect households occur afterhours or at weekends. Video-conferencing and use of web technology has the potential to provide 24/7 support. If the households in these communities have reliable, high speed broadband connectivity, support can be made available 24/7 either by accessing remote services via broadband or having physical access to a trusted person in the community who can assist immediately in case of an emergency

At present households in the region are generally under-skilled in their use of the internet. Government and education providers must increase the availability of internet related courses to prepare households for the digital economy in the Far West NSW region. While some education is available through the government senior's initiative and some courses are provided by Robinson College, which is based in Broken Hill, it is generally felt that more training is needed.

Actions

What do we want to do	Why	Who will do it	When	Resources
Create a network of high speed broadband advocates – "digital champions" who can share knowledge and shed realistic light on the digital economy. A number of the residents who attended our briefings have agreed to participate.	Greater acceptance of technology will facilitate the rate of change and ability to transition benefits smoothly into lives.	Local community residents, non profit organisations, RDA Far West NSW will help to facilitate.	Throughout 2012 and beyond.	To be determined but hoping to share and capitalise on use of existing knowledge and equipment where possible.
Develop a digital buddy programme with the Young Indigenous Leaders Group, whereby the young people in indigenous communities agree to mentor and teach the older generation about the benefits of the internet.	Help to improve computer and technology literacy and awareness amongst Indigenous people	RDA Far West NSW to facilitate with Department of Aboriginal Affairs (NSW) and Department of Families, Housing, Community Services and Indigenous Affairs (Commonwealth)	2012 and Ongoing.	Look to NSW and Commonwealth Governments for programs and resources as appropriate, philanthropists, non profit groups.
Create a digital buddy program whereby IT professionals in the community and web-savvy young professionals agree to transfer their skills to a household.	Help to improve computer and technology literacy and awareness amongst community members in general.	A local IT company, Edgnett[27], have agreed to heading up this initiative and to be facilitated by RDA Far West NSW.	2012 and Ongoing	Local professionals
Develop a program where the	Waste reduction is	RDA Far West	2012 and	Some external

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[27] www.edgnett.com.au

community recycles PCs, laptops smart phones and tablets. This means as businesses and higher income families upgrade devices their older devices can be made available to lower income households.	promoted while learning and growth evolves. The community members will help each other through this change process.	NSW will seek to find a non profit or other organisation to spearhead this initiative.	Ongoing	support may be accessed through grant funds.
Seek funding to enable low socio-economic households to get free or subsidised internet access. Facilitate development of a program to improve access to the internet at low to no cost to people in need.	Access in many areas is not available due to cost, lack of technology.	RDA Far West to facilitate and involve local not for profit organisations, potential central access points.	2012 and Ongoing	Work with external agencies to identify funds (tailor-make the program).
Continue rollout of the CLIP[28] initiative and educate the community on its use, to help households better engage with government services.	Help to break the cycle of FIFO/DIDO help by helping our own.	Local service providers are already doing this work.	Testing underway in 2012	Local providers.
Increase promotion of existing senior's computer courses and "introduction to the internet" courses. The Far West NSW region has a high proportion of older residents and this work is needed to deliberately engage them in new ways of engaging within the community.	Facilitate broad understanding of technology and its uses; transition people into greater use of technology in ways that are relevant to them. Encourage a socially-inclusive community.	BHCC, training providers, and some facilitation by RDA Far West NSW.	2012 and Ongoing	BHCC Library and staff, and will seek to identify other locations and trainers.

THE DIGITAL DIVIDE

The digital divide has been recognised around the world as a developing phenomenon of the digital economy. Unless the disadvantaged areas of society are included and provided for broadband can increase the gap between the rich and poor. The government rollout of the NBN directly talks about providing broadband access for every person in Australia. This is important as it will give the most remote people in the country equal access to:
- Healthcare
- Education
- Government services
- And an increasing number of business opportunities

The actions listed in the area for low socio-economic households as well as specific actions in other sections of the document will ensure this digital divide doesn't develop in our area. There is more said about human equity issues in the health section. See the video clips from the Chair of the Far West Local Health District in particular.

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[28] CLIP stands for Centralised Local Information Portal – it is an initiative that has grown from the Schools Business Community Partnership Committee. It is a software development project, home-grown in Broken Hill and Far West NSW, for use amongst community agencies. It will enable improved coordination of resources between agencies (some of which are grant-funded projects servicing the Remote Service Delivery area in Wilcannia) and a search functionality to identify and locate services for specific needs.

Local Government

BROKEN HILL CITY COUNCIL[29]

Current State and Future Vision

In developing this strategy, discussions took place between RDA Far West NSW and the senior management team at the City of Broken Hill as well as the Mayor and some city councillors to identify critical elements of their vision for the digital economy in Broken Hill.

The announcement of Broken Hill as an early release site is critical to future endeavours of the council – it recently launched its new brand. This brand will be heavily promoted via the internet and as such the online branding initiatives can act as a flagship online project for the council. With a successful "relaunch" of the brand in a high speed, reliable online environment, the community will be more aware of the council's website and online services. This will assist with getting the community to engage with the council.

At present, the council does very little with regard to e-Government owing to a lack of sufficient knowledge amongst its employees, few appropriate technology-proficient staff and lack of sufficient financial resources to acquire some of the essential tools – many of which may have previously been beyond the reach of a smaller, inland city. However, given considerable new developments and increased availability of more affordable technologies, many initiatives can now be vigorously pursued and implemented at relatively low cost. Examples of government using the internet effectively include:

- Providing online forms to streamline processing of applications
- Managing service requests online using web and mobile applications – such as Ushahidi,

Snap Send Solve, Neatstreets, Picture Adelaide

- Consulting with the community online – the council has tried a solution called Bang the Table[30] which has been successful. Other more affordable online solutions are also available for smaller consultations
- Managing emergencies online using mediums such as Facebook and Twitter. Brisbane City Council used these tools effectively during the 2011 flood and cyclone emergencies;
- Collaborating internally using tools such as Yammer[31]
- Engaging the community using blogs and video
- Sourcing ideas from the community via crowdsourcing – asking the community to submit and vote on ideas for improving their environment – see a [recent example of this in New York City](http://nyc.changeby.us/#start)[32]
- Connecting online and offline services using QR[33] codes
- Engaging with residents via online library tools, for example www.mosmanreaders.net, www.kingstonlibraries.net
- Promotion of council events using social media, which Broken Hill City Council already uses for certain major events, for example Facebook is already used for the annual Civic Ball

The Broken Hill City Council is eager to promote the roll out of the NBN, e-Government and the digital economy in the city as indicated by our interviews with both the councillors and the council management below. Most importantly, the council is providing strong leadership to the community through its promotion of initiatives

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[29] Broken Hill City Council is referenced as BHCC in many sections of this strategy.

[30] http://corporate.bangthetable.com/
[31] https://www.yammer.com/
[32] http://nyc.changeby.us/#start
[33] QR means quick response. QR codes are like barcodes that can be scanned, for example with a smart phone, to reveal a message, open a webpage, find contact details, and many other uses.

such as the film studio and its rebranding of Broken Hill as well as its general support for the broader development of the region.

http://www.youtube.com/watch?v=DhW43A110SQ

http://www.youtube.com/watch?v=FqexKJSmvBQ

http://www.youtube.com/watch?v=F9GzsmWLhAs

Broken Hill City Council has also commenced using tools such as Facebook and Bang the Table to engage more effectively with the community with regard to its own services. This leadership will encourage other major stakeholders across the community to embrace the digital economy. By 2020, the BHCC aspires to be recognised as a leading regional council in the delivery of government services via the internet. Key success factors:

- Higher engagement with the community through online consultation, and the facilitation of feedback through social media and crowdsourcing applications;
- Better and quicker communication with the community;
- Faster delivery of services to the community;
- Improved customer value for all stakeholders;
- Lower internal transaction costs drive efficiencies.

Actions
(To prepare for the NBN rollout)

The council has a commitment to carry out the following actions in the short term:

What do we want to do	Why	Who will do it	When	Resources
Appoint a project officer to lead an NBN rollout working group for BHCC operations.	Accelerate engagement with NBN Co and prepare Broken Hill for high speed broadband. By 2020, it is predicted that 4 in every 5 Australians will choose to engage with government through the internet or other type of online service[34].	BHCC	31 March 2012	BHCC, other external support as identified
Develop the BHCC NBN project working group.		BHCC	31 March 2012	BHCC
Speak with project managers at first release sites and get advice on how best to assist the NBN.		BHCC	31 March 2012	BHCC
Prepare a strategy for NBN funded education for broader community http://www.dbcde.gov.au/funding_and_programs .		BHCC	31 March 2012	BHCC, seek training funds

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[34] One of the eight goals in the National Digital Economy Strategy – improved online government service delivery and engagement, http://www.nbn.gov.au/the-vision/digitaleconomystrategy/

Actions
(To develop e-services for customers, enhance online presence)

What do we want to do	Why	Who will do it	When	Resources
Receive commitment from BHCC to prioritise e-Government initiatives.	Community benefits. National Digital Economy Strategy goals upheld.	BHCC	Advanced development	BHCC
Appoint an NBN project working group.		BHCC	31 March 2012	BHCC
Research what other leading councils are doing.		BHCC	31 March 2012	BHCC
Pursue cost efficient video conferencing capabilities to liaise with key State and Commonwealth Government funders and agencies. Develop an emergency management centre – install video conferencing capacity within BHCC premises.	Provide for critical communications and crisis management centre. Existing local facilities at TAFE, Essential Energy or the Department of Health are accessed but this is unacceptable in the longer term.	BHCC cooperate with existing facilities	Urgent need as soon as NBN rolled out	BHCC, subject to funding availability
Launch new Broken Hill brand including new website.	There is an identified need for single entry portal for Broken Hill.	BHCC	30 June 2012	BHCC and external funds
Promote efficient methods for collaboration amongst clusters of councils in the region, e.g. sharing of knowledge, plant, equipment, labour, facilities – to help stimulate the region as a place to live and invest, help population regenerate.	Financially, councils in our region struggle to meet all costs. Improved collaboration enhances efficient outcomes. This meets goals in the NSW 2021 plan and RDA Far West NSW Regional Plan.	Future regional organisation of councils.	During 2012	Local councils, Division of Local Government.
Develop e-Government initiatives to improve engagement with the community. Initiatives to include: • Online payments (rates, development applications, other fees and charges) • Online consultations (e.g. bang the table, others) • Reports from the general public on roads, parks, footpaths, other facilities • Promotion, information about major regional events like St Pats Races (e.g. Twitter, Facebook) • Receipt of compliments and complaints online	Current internet speeds in BH highlight the current poor customer access experiences prevalent in the region. Benefits will not be realised until high speed broadband is available.	BHCC	Existing software contains the modules for many of these initiatives. Developing the processes and internal capabilities is an ongoing process as part of BHCC readiness for the NBN roll out.	BHCC staff, NBN local government grant – still trying to understand if BHCC may be amongst top 40 sites.

CENTRAL DARLING SHIRE COUNCIL

Current State and Future Vision

In developing this part of the strategy, we spoke with Tim Drew, the General Manager for the Central Darling Shire Council and the Mayor, Cr Ray Longfellow. Tim and Ray are based in small, remote towns, Wilcannia and Ivanhoe, and know just how important telecommunications are in these relatively isolated communities.

The technology solution proposed for the greater Far West NSW region is still unknown but it is indicated on maps that satellite is currently proposed. Customers can expect to be able to connect to the NBN satellite by 2015. There are some life shifting changes that will occur but at the same time, there is great need to stop the digital divide phenomenon from evolving.
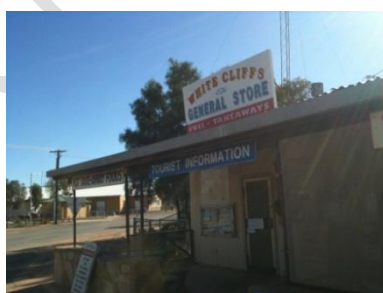
Actions
(To prepare for the NBN roll out)

What do we want to do	Link to the National Digital Economy Strategy	Who will do it	When	Resources
Work with BHCC to collaborate, share resources	By 2020, it is predicted that 4 in every 5 Australians will choose to engage with government through the internet or other type of online service[35]	Councils in Far West NSW	During 2013	Local councils, Division of Local Government

Note: Actions identified elsewhere in this strategy will equally apply to Central Darling Shire wherever possible.

Wilcannia Post Office

White Cliffs store

Recreation on Lake Pamamaroo, 2011

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[35] One of the eight goals in the National Digital Economy Strategy – improved online government service delivery and engagement, http://www.nbn.gov.au/the-vision/digitaleconomystrategy/

THE UNINCORPORATED AREA OF FAR WEST NSW

The Far West NSW Unincorporated Area, including Village Committees in the townships of Tibooburra and Silverton.

Current State and Future Vision

In developing this part of the strategy, we combine the umbrella ideas and objectives of the region and try to make sense of what high speed broadband will mean across our vast landscape, given the likely mix of fibre optic to the premises in Broken Hill and satellite elsewhere in the region. There is also uncertainty about whether or not a fixed wireless service will be made available through the NBN project.

Tibooburra, NSW

Actions

We extend an invitation to the people in the Unincorporated Area of NSW to have a direct say on actions.

What do we want to do	Why	Who will do it	When	Resources
Work with identified partners to collaborate, share resources	By 2020, it is predicted that 4 in every 5 Australians will choose to engage with government through the internet or other type of online service[36]	Councils in Far West NSW	During 2013	Local councils, Division of Local Government,
Facilitate access to information about tourism, events and regional initiatives in Tibooburra, White Cliffs, Milparinka and Silverton.	Tourism is amongst the largest contributors to the economy in many parts of Far West NSW. Tourists increasingly search for information about their travel plans online, well before arriving at the destination.	RDA Far West NSW will work with village committees, councils, tourism organisations to develop online information.	2012 and Ongoing	RDA Far West NSW to provide information about grant funds as it becomes available.
Facilitate development of digital engagement possibilities in Silverton to benefit construction of the wind farm, ongoing tourism needs.	Hundreds of construction personnel will be involved in the project. Many will demand access to keep in touch with family.	RDA Far West NSW will liaise with the Silverton Village Committee to identify any opportunity to provide public access to the internet.	2012	RDA Far West NSW, Silverton Village Committee, others, may seek external funds or other support.

Note: Actions identified elsewhere in this strategy will equally apply to the Unincorporated Area of NSW wherever possible.

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[36] One of the eight goals in the National Digital Economy Strategy – improved online government service delivery and engagement, http://www.nbn.gov.au/the-vision/digitaleconomystrategy/

Health and Aged Care

Current State and Future Vision

As the ehealthinfo.gov.au website highlights, Australia is not alone among OECD countries in projecting unsustainable growth in expenditure on health services. As such, it is essential to find ways to increase efficiencies in the healthcare system, to reduce costs without compromising on the quality of the services delivered.

Like many other sectors, the health sector in the region is frustrated by the current telecommunications infrastructure in the Far West NSW region. For example, this is encapsulated by the Dentist's clinic which when constructed 10 years ago was fully fitted out and networked for fibre optic cable. The dentist's current ISP provides a service which is little better than dial-up and there is no alternative service available to the dentist.

Across the Far West NSW region, the lack of adequate technology capacity and speed is holding our region back. In this video below, the Chair of the Far West Local Health District board explains the general aspirations of the regional health services, and highlights how attainment of health standards are being impeded by declining technology services:

http://www.youtube.com/watch?v=bPz28Yw7W1A

We visited an aged care facility in Broken Hill which does not currently offer internet connectivity to individual residents due to infrastructure service constraints. In the next video, you can gain a sense of how quality of life for our older residents is impacted by lack of technology services:

http://www.youtube.com/watch?v=nunq7cXu1l8

High speed broadband will enable the delivery of electronic services to improve upon existing paper-based systems. The electronic management of health information has the potential to transform the way health is delivered now, by improving the quality and safety of our healthcare system. It's been estimated by Deloitte Consulting[37] that for every dollar invested in eHealth in Australia, we'll see more than two dollars back.

To maintain the region's position of being at the forefront of the delivery of health services to regional communities and to continue to improve the healthcare services being provided to everyone in the Far West NSW region.

Notwithstanding the current frustrations, the Far West NSW region has a real opportunity to become a leader in e-Health by building on the skills, expertise, processes and infrastructure already being put in place by some of the leading health providers in the region, namely:

- The NSW Health and its telehealth and e-Medical records program
- The Royal Flying Doctor Service and its skills, traditions and culture of innovation and adoption of the latest technologies
- The Broken Hill University Department of Rural Health (BHUDRH) and its community of care program
- Maari Ma Health Aboriginal Corporation

Health and Education Equity

Technology should prevent development of the urban/rural health divide. In the following video, hear about health equity. Australia, as a nation, strives to provide the same quality health care in the rural and remote locations as is provided in well populated metropolitan areas. Technology is the critical enabler for the prevention of an urban/rural health divide. Listen to Dr Steve Flecknoe-Brown talk

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[37] Deloitte Consulting, report for the Australian Health Ministers' Conference, 2008

about health equity for the Far West NSW region:

http://www.youtube.com/watch?v=oxsRek-8MDg

Professional Development

Evidence shows that students learn more effectively in the training programs offered by the BHUDRH. They have more impressive results, and they are more likely to want to work in remote and rural locations. Interactions are real, practical and create long-lasting learning experiences. But without high speed broadband, there are ongoing frustrations. Listen to the story behind the professional development of more than 400 students per year, the future doctors and other medical professionals, who come to our region for this specialist practical learning:

http://www.youtube.com/watch?v=00fCM6veKp0

e-Medical Records

NSW Health has been rolling out an e-Medical record system in select regional areas over the past two years. Broken Hill is one of the areas where the pilot has been conducted. Doctors, nurses and health staff in Broken Hill are already involved in the pilot (along with four other sites) and are building and testing a system suited to rural needs.

The benefits of the e-Medical records include:

- fast access to patient information for clinicians
- reduction in paperwork which allow nurses and doctors to have more time with patients
- alert notification of patient issues
- fewer errors due to issues such as illegible handwriting
- prompting for safer care – ie if the clinician forgets to perform a certain procedure
- better coordination of resources such as operating theatre time

Telehealth Services

NSW Health has been trialling telehealth services in the region for some time.

NSW Health has begun trialling telehealth videoconferencing services into regional areas. The benefits to date include

- Consultations being delivered via video-conferencing
- Specialists that were previously inaccessible are now available to the rural community
- Broadens clinical options access to the rural public
- Rural patients have taken to the technology very quickly. They see immediate benefits such as quick access to specialists (rather than having to wait months for a consultation) and not having to travel many hours to larger towns for consultations

Lack of bandwidth means the services can only be rolled out to a small number of rural townships at the moment. The NBN will allow telehealth for all.

Broken Hill University Department of Rural Health (BHUDRH)

This campus was established to improve health care in far western NSW by providing high quality support, education and training for rural and remote health workers.

Its focus is to establish relevant teaching and support environments, promote opportunities for student placements in the region, encourage experienced academic staff to spend time in the bush and foster partnerships to improve the quality of health care for rural Australians.

BHUDRH has works closely with the Far West Local Health District, Maari Ma Health Aboriginal Corporation, the Royal Flying Doctor Service (South Eastern Section) and

Divisions of General Practice to deliver a successful rural attachment program for medical, nursing and allied health students. It also provides comprehensive training for Indigenous health workers, research training for general practitioners and primary health care workers, and professional development support for local health professionals.

More recently BHUDRH joined forces with the Population Health Division of the Far West Local Health District to operate the Broken Hill Centre for Remote Health Research. The centre aims to enhance national expertise in rural and remote health research and translate research into policy and practice.

The initiative is seen as world's best practice in clinical education and the University has delivered papers around the world on its effectiveness.

The program has been a great success and has the potential to rejuvenate the health sector in rural communities. As then Prime Minister, Kevin Rudd stated on a visit to Broken Hill in March 2010 to announce $1.9 million funding for the initiative:

> "These funds will help ensure that students undertaking rural training have access to top quality facilities and encourage them to consider future careers in rural health. Doctors and health professionals who spend time training and learning in regional and rural centres often establishes strong links with the local community."

The Rural Health Campus is considered world's best practice and the academics running the course have collected evidence and presented papers internationally on the campus.

Some of the key benefits are:

- Hands on experience for students
- Unlike in the city they get to see patients first hand – they are not at the back of the queue to see patients as often happens in the larger cities
- Often they get to treat patients on their own
- This hands-on experience means the students become better doctors and medical professionals
- Students contribute to the economy by spending money in the region (estimated at $10m per annum in Broken Hill)
- Students contribute their expertise to the community

High-speed broadband will enable:

- More efficient delivery of the service
- Improved collaboration with participating universities
- Improved connectedness with the outside world – ability to access world's best practice lectures and webinars
- Ability to deliver webinars on areas of rural expertise (such as aboriginal cultural awareness training)
- Talk to people in real time in rural communities

The Rural Health Campus initiative has been so successful that the region is now looking to take the medical model and move it to other sectors such as law, business, engineering and design. See education sector.

Royal Flying Doctor Service

Australia has long been at the forefront of the delivery of health to regional communities ever since the days of the Rev John Flynn in the 1920s. He saw firsthand the health concerns of communities living in remote areas where two doctors provided the only medical care for an area of almost 2 million square kilometres. His vision was to provide a 'mantle of safety' for these people and on 15 May 1928, his dream had become a reality with the opening of the Australian Inland

Mission Aerial Medical Service (later renamed the Royal Flying Doctor Service (RFDS)). While the RFDS began in Cloncurry, Queensland its NSW section has operated since 1936 when it opened its Broken Hill base. In the 1950s, the RFDS was acknowledged by former Prime Minister Sir Robert Menzies as "perhaps the single greatest contribution to the effective settlement of the far distant country that we have witnessed in our time." Today, it has a fleet of 53 aircraft, 21 bases around Australia and looks after over 270,000 patients.

The RFDS has always applied the latest technology to deliver health services to the challenging environment of remote Australia. It has a track record of overcoming the tyranny of distance and the barriers of communication. The organisation has successfully utilised technology in the past including:

- the use of flight and other transport means
- the utilisation of telephone and radio

In recent times it has embraced satellite and web based communication technologies both of which will improve with the advent of the NBN. This successful track record in adopting technology and the culture of embracing technology to solve real health issues is a key strength. The Far West region can harness this strength as it enters the digital economy age to provide better health services to all its residents.

http://youtu.be/PDRmSo7bDUo

Actions

What do we want to do	Why	Who will do it	When	Resources
Health Equity The key aspiration of the Far West NSW health sector is to provide similar health services to the people in our region as are provided to people in large city environments. The only way to achieve this is by having clever use of e-diagnostic and clinical services. Without technology enablers, the urban/rural divide will continue to worsen.	Health indicators deteriorate the further distance you are from cities, e.g. 20 years shorter life for an Indigenous person and 10 years shorter life for non Indigenous; death rates for cancer are higher. The digital divide is increasingly manifested in Australia through such trends.	Far West Local Health District BHUDRH, Maari Ma, Royal Flying Doctor, the region's Medicare Local, local medical practices and health care specialists	Ongoing	Govt funds. Donations and grants.
Health System Management (a) Telehealth Continue to roll out health services to Broken Hill and our Far West NSW rural communities. Contrary to opinion, patients don't mind telehealth video. But high definition services are key to having an effective consultation between doctor and patient. (b) e-Medical Records Continue to improve data management, data sharing, security,	Road travel is dangerous for patients and health professionals alike. Air travel is largely out of reach for many, or not available. It makes sense to let technology offer convenient, efficient services. Current impediments are poor quality picture and unreliable data transmission. Data	All the key medical professionals in the region have a part to play, see above.	Urgently awaiting high speed broadband	Govt funds. Far West Local Health District would like to be a trial site for national health e-medical records.

storage, access, integration with related services.	management efficiencies can increase exponentially over a large geographic area.			
Professional Development Continue to refine the rural health campus initiative and promote its benefits to the world. Broken Hill is transitioning from its past as a working class town to a vibrant, innovative university town. In this new future, people relate to each other differently. A successful transition is the key to our future economic development (reference sites are the former predominantly steel cities of Newcastle, Wollongong). (a) Students bring diversity to rural communities and offer intellect, and vibrancy and innovation. (a) e-Learning blend Mix up learning methods, e.g. interactions with local mentors, businesses, video, other students.	Education levels and good health increase. Community learns and grows. Better educated people take better care of themselves. Lifestyle expectations change. People are driven by learning, professional clusters, networks, ability to access quality lifestyles, information and recreational activities. Technology and face to face interactions are critical. The economic impacts attributed to current student learning activities in Far West NSW are estimated at $10m per year.	All the key medical professionals in the region have a part to play, see above. Various national, international partnerships and arrangements enabled with high speed broadband. Medicare Local has prioritised the setup of education programs in next 12 months.	Urgently awaiting high speed broadband to provide improved services for students, local profession als	BHUDRH, FWLHD Students from universities. Various grants. Federal funds.

Seeking healthier communities, as in Broken Hill (above) and Menindee (left)

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Education

Current State and Future Vision

Every student in the Far West Region will have high-speed broadband access both in the home and in the classroom and the requisite skills and understanding to access online education. Education providers will have the ability to provide specialised web based training from the region to the world. The Broken Hill University Department of Rural Health's community campus model will be rolled out to different disciplines such as business and law and attract many more students to Broken Hill and the Far West Region. It will be widely recognised as a world class education methodology.

The internet has already transformed how we learn. *Google's* mission *"t*o organise the world's information and make it universally accessible and useful" seemed unattainable less than two decades ago. It has been delivering on that mission more effectively with each passing year and we now have access to more information than we could ever have imagined 20 years ago. This access to information has fundamentally changed the way we learn and seek knowledge.

Increasingly, video and interactive content is where the best information is available to students and researchers. Access to this information requires broadband speeds. The disadvantages to those without access to high speed broadband are increasing with each passing year. Education will be increasingly delivered via the internet. While all schools in Australia will have access to broadband internet, it is equally important that high speed internet is available in the home, so that students can take advantage of online learning tools in their home environment.

A well-known worldwide example of how education is changing and how (free) education is being delivered over the internet is www.khanacademy.com . This service originally began when Salman Khan began tutoring his nephews online. His maths tutorials were delivered via the internet. Khan decided to record the sessions and make them available online (via Youtube). He soon realised that his nephews preferred the recorded tutorials, opening his eyes to the power of online education. The service has grown from those beginning and having received funding from the Bill Gates has grown to now include over 2600 online tutorials and virtual classroom software that anyone can access anywhere.

Khan Academy illustrates the kind of services that will be available to students allowing them access to extensive video libraries, practice exercises, and assessments from any computer with access to the web. In addition to regular classroom education, students will have access to these types of tools that are:

- customised self-paced learning tools
- dynamic systems that allow students to confidently seek help (unlike asking for extra help in a classroom environment)

In the future parents, teachers and tutors can expect to have full visibility into what their students are learning and doing. A teacher will have:

- the ability to see any students progress in detail
- real-time class report for all students
- better intelligence for doing targeted interventions to assist those students with difficulties

Parents, students and educators who aren't aware of online education initiatives or don't have the skills to access these initiatives will be at a huge educational disadvantage.

The Far West NSW region must ensure that access and education is available for every student, parent and educator, both in the classroom and at home. See a recent Economist article " Flipping the Classroom: Hopes that the internet can improve teaching may at last be bearing fruit"[38]

In the Far West NSW region education providers are doing some interesting work. We spoke to secondary and tertiary education providers in compiling information for this report.

Broken Hill University Department of Rural Health

As discussed in the health section of this report, the Broken Hill University Department of Rural Health campus has experienced major successes in providing practical training for health clinicians. The aim is to now transfer this learning framework to other disciplines such as business, law, and engineering. The search for funding is currently underway with the objective being to fund the expansion of the campus program to these new disciplines. Hear about the plans from Associate Professor David Perkins:

http://youtu.be/uksUvuLzjqA

TAFE Western Institute & Robinson College

New courses are planned for Far West NSW students in the future. There is an ongoing need to increase participation in education by rural and remote students as they can gain new access to technology. TAFE also plans to continue its use of social media to communicate with students and to continue to engage with other new technologies as they become available. TAFE is also a key partner in the community helping to drive

innovative solutions to barriers and challenges that are presented. In the following videos, local training managers and mentors highlight issues of relevance in providing education services over such large geographic areas, and discuss why participation in education by young people is essential, given the empowering features of knowledge and the significant contribution an education can contribute in order to avoid creating a digital divide in our region.

http://www.youtube.com/watch?v=9TynuQ2T8n4

Robinson College

Robinson College is a not-for-profit community organisation that is funded by the NSW Department of Education and Training to deliver Vocational Education and Training programs in Broken Hill, Menindee, Wilcannia and Far Western NSW. The college provides funded opportunities for people to gain vocational skills in a variety of industries. See the manager in the following video discuss the current programs offered in the Far West NSW region:

http://www.youtube.com/watch?v=3OmL8HtCz9w

Robinson College recognises that high speed broadband will assist with:

- Flexibility in learning, access to learning. An increased number of courses can be offered and web-based e-learning capabilities, currently restricted due to poor bandwidth, will improve.
- Simple management of web resources will improve. Due to poor speeds, simple tasks like updating the web site, is inefficient.
- Offer courses worldwide. The college offers course in "Land Management" specific to arid regions. With global warming arid regions are increasing and the skills and knowledge of the Far West

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[38] http://www.economist.com/node/21529062

NSW region will increasingly be in demand worldwide. This expertise and knowledge can be shared via online education and elearning. Likewise, mining-specific courses could be delivered online.

Right, inside the dining carriage at Menindee Central School's innovative Enterprise Park Project – teaching tourism, hospitality and other skills

Actions

What do we want to do	Why	Who will do it	When	Resources
Encourage our education service providers to pursue funds under the DEEWR Education Investment Fund (EIF)[39] – Regional Priorities Round. National VET E-learning Strategy[40] Possible Digital hubs and digital enterprise funding through the Department of Broadband[41] (at present this is only available to the first 40 regions but may be extended).	Develop a robust education funding strategy for the region. There is a lot of education funding being made available through federal and state initiatives including	Our local education service providers	2012	Grant funding opportunities as they present
Have a standardised approach to attracting university students to the region. At present no single register of all the universities sending students to Broken Hill exists. The BHUDRH initiative is one of the most well known and accessed university programs in the area. Many others have not been documented.	A documented process for attracting universities to send students to the region will assist in systematically increasing the number of students spending time in Broken Hill and Far West NSW. The social and professional exchanges are of great benefit to all parties.	RDA Far West NSW will communicate with universities to identify current formal and informal programs in the region.	2012	RDA Far West NSW, BHCC, BHUDRH, others
Develop a clear process in the region for applying for the funding mentioned above.	The region is not getting the educational funding it currently needs	RDA Far West NSW	2012	RDA Far West NSW
Local providers to continue and increase its provision of niche and specialised education in mining, land management in arid regions and indigenous Australian art and culture	These are areas where the region has unique and specialised expertise that can be exported around the world	Robinson College, TAFE, BHUDRH	2012 and beyond	Robinson College, TAFE

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[39] http://www.deewr.gov.au/HigherEducation/Programs/EIF/Pages/EIFRegPrioRound.aspx
[40] http://www.flexiblelearning.net.au/
[41] http://www.dbcde.gov.au/funding_and_programs

Environment

Current State and Future Vision

The region will reduce energy use through the use of smart technology devices to become more environmentally friendly. We will use technology to share environmentally friendly farming practices that ensure we protect our land.

While the focus of this document is not on environmental benefits, we believe that more environmentally friendly practices will be a by product of the enactment of this digital economy strategy.

With a warming planet, developing sustainable farming in arid regions will become ever more important around the world. Far West NSW has developed expertise in land management in an extremely harsh climate over many decades. This knowledge is becoming increasingly valuable to governments and farmers overseas and as such an opportunity exists to deliver e-learning on land management in arid regions from Broken Hill. Robinson College already delivers this learning in classroom format.

Similarly Smart Farm technology which is currently being trialled in Armidale, NSW, will be rolled out to farms in the coming years. This will improve efficiencies across all farms, ensuring the best use of natural resources. While these advances will not be unique to the Far West region they will ensure the Far West farms of the future continue to engage practices that benefit the environment.

Protection of the environment also ties in with the broader tourism objectives of the region. A current proposal exists to nominate a part of the Menindee Lakes area as a Ramsar site. If this listing is received, the internet will be a key tool in promoting the lakes as a large tourist attraction. Please read the "Menindee Lakes Economic Assessment Benefit Report March 2011" at http://www.rdafarwestnsw.org.au/default.asp?PageID=WhatsNew .

The many facets of environmental issues in Far West NSW, left to right, top, fishing at Main Weir Menindee, Darling River in flood, wide open spaces on road to Tibooburra, left to right, bottom, spoonbill on Lake Wetherell, and irrigation at Menindee Lakes and in Menindee township

Actions

What do we want to do	Why	Who will do it	When	Resources
Use the internet to assist with getting Ramsar listing for the Menindee Lakes – a strategy could be developed that is web-based and provides video footage similar to this report.	To promote and protect the unique environment in the area. Also, the new business and employment opportunities for Menindee.	RDA Far West NSW continues to work with State and Federal Governments on this initiative	During 2013	Internal and also not for profit organisations in the region, out of region.
Set-up webcams that showcase some of the region's beautiful natural attractions to the world.	Assist with marketing and promotion for local businesses.	RDA Far West NSW will attempt to acquire equipment and find locations with adequate connectivity	During 2012	We will seek assistance of technology specialists
Contact CSIRO to find out how Smart Farm technology can be utilised in the region.	Share knowledge with local horticulturalists.	RDA Far West NSW	During 2012	Internal

Water for everyone from use of smart technology... Menindee Lakes birdlife, left, attracts tourism dollars, and cotton crops grown by Tandou Ltd, right, engage some water-saving subsurface irrigation technology.

Next Steps

With the advent of high speed broadband, RDA Far West NSW and Broken Hill City Council foresee a bright future for our communities with thriving industry sectors in creative services, mining and education. Our households in towns and in the most rural areas will be engaged and the people in our region will have access to the best health and education services available.

We believe this region should be prioritised due to our current lack of infrastructure and also due to our community's readiness to adopt high speed broadband technology.

We recognise that we as a community need to prepare for the digital future. Therefore, as the reader will have observed, each section in this document lists actions for implementation. During the consultation process until 31 March 2012, we are strongly encouraging the community to give us feedback and to send us any ideas they may have. The best ideas will be listed as action items in the final version of this report.

To conclude this report we have listed below the actions we feel are most important. These are the actions the RDA Far West NSW and key local stakeholders believe must be undertaken as a priority:

Actions

What do we want to do	Why	Who will do it	When	Resources
Appoint a project officer to lead an NBN rollout working group for BHCC operations.	Accelerate engagement with NBN Co and prepare Broken Hill for high speed broadband.	BHCC	31 March 2012	BHCC, other external support as identified
Develop the Film Studio as a high speed broadband test site	This will show the potential of the internet and kick-start the development of the film precinct	BHCC, RDA Far West NSW	July 2012	Funding will be actively sought
Engage the community in the development of the digital economy process and seek input into the consultation process through a coordinated marketing campaign.	Community engagement in the process will ensure we develop a strategy that reflects our entire community	RDA Far West NSW	December 2012	Internal (wide use of free marketing resources)
Have a standardised approach to attracting university students to the region. At present no single register of all the universities sending students to Broken Hill exists. The BHUDRH initiative is one of the most well known and accessed university programs in the area. Many others have not been documented.	A documented process for attracting universities to send students to the region will assist in systematically increasing the number of students spending time in Broken Hill and Far West NSW. The social and professional exchanges are of great benefit to all parties.	RDA Far West NSW will communicate with universities to identify current formal and informal programs in the region.	2012	RDA Far West NSW, BHCC, BHUDRH, others

Your Input

How can you help? If you strongly believe the region needs high speed broadband (and you are interested in using the services as soon as they become available), please show your support by adding your name and comments at the bottom of this page at www.digitalfarwestnsw.com.au . Please tell others in the community to do the same, via Facebook, Twitter, telephone email or simple word of mouth. Forward content from this strategy to Canberra, NBN Co and your local MP, telling them why the Far West NSW region needs high speed broadband.

If you would like to add to any particular section of the report you can add your comments by:

- using the comments section at the bottom of each section on www.digitalfarwestnsw.com.au
- emailing us at admin@rdafarwestnsw.org.au
- mailing us at RDA Far West NSW, PO Box 1010, Broken Hill, NSW, 2880
- or calling us on (08) 8087 8383

In the meantime, this strategy will be reviewed and adapted as necessary for changing priorities. The RDA Far West NSW and all our stakeholders in the community are excited about the opportunities that high speed broadband access presents, and look forward to preparing for the implementation of the actions and initiatives listed in the report.

Thank you for taking the time to read this document and we look forward to your input in the coming months.

Contributors to this strategy:

We would like to thank every person who has so far contributed to this strategy so far, including:

Steve Baker	*Cr Dave Gallagher*	*Margot Muscat*
Pam Clarke	*Cr John Groenendijk*	*Linda Nadge*
Sharyn Cowie	*John Hart*	*Gary Oldman*
Cr Wincen Cuy	*Matt Haynes*	*Peter Oldsen*
Paul DeLisio	*Heidi Henry*	*David Perkins*
Scott Dennis	*Tegan Hinchey*	*Bill Riley*
Paula Doran	*Jason King*	*Lyndall Roberts*
Collin Doyle	*Geoff Looney*	*Paul Seager*
Tim Drew	*Chris Mann*	*Paul Smith*
Lance Duggan	*Steve McDermott*	*Bruce Tindale*
Robin Edgecumbe	*Steve Miller*	*Gerald Vandenheuval*
Steve Flecknoe-Brown	*Ken Mills*	*Frank Zaknich*
	Frankie Mills	

This is a living document. Ongoing strategy presentations and further community input will take place during 2012. Public consultations will occur in the period until 31 March 2012. Posters, advertisements, our website and our e-Newsletter will advise locations and times.

APPENDIX

The digital economy strategy must both reflect and enable the overall regional development plan. As such, key parts of the Far West NSW Regional Development plan 2010-2011 report are restated here as a reference:

About Far West NSW

- The Far West is the most sparsely populated region in New South Wales, accounting for 18.4% of the land mass, but only 0.4% of the population. Almost nine in every ten people (86%) live in the city of Broken Hill, with the remainder living mostly in the Central Darling Shire towns of Wilcannia, Menindee, White Cliffs, Tilpa, and Ivanhoe; or Tibooburra in the surrounding Unincorporated Area.
- Dramatic population declines over the past four decades have been directly linked to a significantly restructured mining industry. In recent times this decline has stabilised and as this report will show there is potential for growth.
- Broken Hill and Menindee have an older demographic than NSW, while Wilcannia's younger demographic is linked to a high Indigenous population with associated shortened life expectancies.
- Individual and family incomes are well below the national average – with Wilcannia's almost half the national average
- Unemployment is about double the national average in Wilcannia and Broken Hill, and three times the national average in Menindee.
- The region is well served by transport infrastructure and water.
- With regard to health, Broken Hill has a range of primary health care services and an 88-bed hospital supported by visiting surgeons and specialists, while Central Darling Shire relies on a combination of limited on-site resources supported by the Royal Flying Doctor Service and outreach services from Broken Hill and Dubbo.
- Broken Hill has two secondary schools and seven primary schools, while 'combined' schools in each of the outlying centres access government programs to address specific issues. There is opportunity for tertiary education to broaden.
- The climate and environment are conducive to the region's developing tourism and creative industries. Extensive conservation occurs through a series of national parks and the region is conducive to renewable energy projects.
- Known mineral resources retain mining as a key employer and the region is also considered highly prospective, with a number of smaller projects in various stages of development. However, the traditional mining/pastoral dependence is moving through a diversification process.
- Alongside tourism, there are emerging industries in goat and meat sheep production and horticulture is diversifying into cotton, malting grains, grapes and stone fruits.
- Education is a significant employer in each of the three main population centres alongside healthcare and social assistance, while retail is the largest employment sector in Broken Hill.
- There are a number of major projects in various stages of development, including non-mining infrastructure such as a wind farm, trade centre, events centre, film studio, aquatic centre, stormwater detention, water supply and heritage conservation – in addition to school infrastructure and a sustained interest in developing resort accommodation.
- As a backdrop to creating a digital economy strategy and realising the key regional goals in the next sector it should be acknowledged that the Far West Region, including large sections of Broken Hill has some of the worst internet access in Australia. Many of the business owners and residents, whom we interviewed separately for this document, reported that their service has steadily worsened in the past 3 years. It appears that the current main ISP in the area provides minimal support when internet services

fail and has no plans to improve or upgrade its services in the future. In short the current infrastructure in place is in a state of disrepair and services are over-subscribed leading to abysmal performance. This is severely curtailing efforts to attain the goals in the next section.

Key Regional Goals

- Broaden the economic base
  Rationale: Retention of existing industry and jobs is vital – but new investment will stimulate better use of under-used resources; a more stable workforce; broadening of the skills base; improved local goods and services; more sustainable community facilities; and the achievement of other economic, environmental and social objectives.
- Strengthen the infrastructure capacity
  Rationale: Although the region has key infrastructure in place, strengthening regional capacity to manage resources such as water and tapping into relatively new industries such as renewable energy and communication technology will enable the region to move forward – economically, socially and environmentally.

- Develop creative industries
  Rationale: A two-tiered approach to creative industries is required: (1) support to encourage the growth and sustainability of participants in existing creative industries such as art, tourism and film, and (2) attraction and development of 'new' creative industries with an emphasis on technological advancements.
- Improve the quality of life
  Rationale: A greater balance of service delivery is required across the region to address issues identified in unemployment data, demographics and social profile data – acknowledging that addressing these issues will have a positive impact on other regional issues and challenges.
- Engage the community
  Rationale: A socially inclusive region will seek to reduce disadvantage and increase participation in jobs, education, training and community activities. To achieve this, knowledge and information needs to be shared – and partnerships developed – so all sections of the community are engaged in the process.

Sunset over Menindee Lakes