Digital Futures
A case study of the Northern Inland region of NSW
Foreword

The Hon. Barnaby Joyce, MP

Deputy Prime Minister, Minister for Agriculture and Water Resources and Member for New England.

Our Government is a big supporter of regional Australia and agribusiness forging closer engagement with digital innovation, which is central to realising our national potential.

The growth and jobs which will come from smarter businesses in regional Australia will not be realised without reliable, modern telecommunications infrastructure.

For example, Machine to Machine technology can help farmers to work smarter and faster, with more precision and accuracy and ultimately improve their livelihoods. But this technology needs better connectivity to benefit farmers and increase profitability.

The NBN will play a pivotal role in coming years by connecting Australians living outside the cities to quality broadband for the first time. The roll-out of the NBN in Armidale and Tamworth has been a great enabler of industry and business growth, and it has been encouraging to see local groups working together to improve the community’s ability to harness the benefits of the NBN.

The Government’s Mobile Black Spot Programme is increasing mobile coverage and competition in regional Australia. Round One of the Programme leveraged the Government’s $100 million investment into a total funding package of $385 million via substantial co-contributions from Vodafone and Telstra, state and local governments and third parties. It also means Vodafone and other providers can make additional investments and extend their mobile networks further into regional Australia and provide greater competition.

The New England electorate is a key beneficiary of the Programme with 28 new and upgraded mobile phone towers being delivered. Mobile providers are working together to deliver these towers and the NBN is sharing its fixed wireless towers to deliver improved mobile coverage. The additional locations to be funded under Round Two are expected to be announced in the second half of 2016, with a competitive selection process for the funding already underway.

I was very pleased to attend the official opening of the first site delivered under the Programme in New England at White Rock Wind Farm near Glen Innes. The White Rock site delivered by Vodafone and Goldwind Australia is a great example of different parties working together to fast track development and deliver positive outcomes for the local community.

This report is an excellent summary of how regional businesses are using these new opportunities as a springboard for growth into an exciting and profitable future. I look forward to continuing to work with telecommunications providers, local businesses and communities to build a connected and thriving regional Australia.

I commend the Regional Australia Institute and Vodafone for this report.
Executive summary

Telecommunications are essential to communities in regional Australia. They enable people to keep in contact across vast distances, assist with access to emergency services and help drive economic growth.

Communications technologies also play an increasingly important role in enabling regional Australia to participate in the digital economy. It has been estimated that the productivity benefit of telecommunications for the Australian economy is $11.8 billion over the period to 2025.1

Access to, and engagement with, communications technologies varies from region to region. The level of access to and engagement with communications technologies is likely to have a significant bearing on the future prosperity and quality of life of a region.

This case study of the Northern Inland region shows a diverse range of groups working together to improve the community’s ability to harness the benefits of communications technologies for businesses and individuals. Overall it is a strong example for other regions of the benefits of cooperative development.

The positive engagement with communications technologies in the Northern Inland region of New South Wales - particularly in Tamworth and Armidale - is the result of the co-ordinated efforts of many different groups and individuals including:

- Governments (Federal, State and Local);
- Telecommunications companies;
- The University of New England;
- Regional Development Australia Northern Inland; and
- Community groups.

Community-driven action is especially strong in the Northern Inland region with the creation of initiatives to boost productivity through the adoption of new communications technologies such as:

- SMART Farm;
- Come On Shopping; and
- The Digital Economy Taskforce.

The experiences of the Northern Inland region offer a number of key lessons for how to make cooperative development work, including the importance of locally-led action, shared goals and collaboration for improved social and economic outcomes.

Communications technologies present a real opportunity for economic growth in the Northern Inland region. The region is well-placed to build on its comparative advantage and evolve as new technologies emerge. The proven strength and creativity of the local community is a positive platform on which to build future capabilities in the region.
The Regional Australia Institute

Independent and informed by both research and ongoing dialogue with the community, the Regional Australia Institute (RAI) develops policy and advocates for change to build a stronger economy and better quality of life in regional Australia – for the benefit of all Australians.

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This research report translates and analyses findings of research to enable an informed public discussion of regional issues in Australia. It is intended to assist people to think about their perspectives, assumptions and understanding of regional issues. No responsibility is accepted by the RAI, its Board or its funders for the accuracy of the advice provided or for the quality of advice or decisions made by others based on the information presented in this publication.

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About this work

Vodafone and the RAI have worked together to identify opportunities for the Northern Inland region to promote regional development through better access to, and engagement with, communications technologies. The region’s two largest centres, Armidale and Tamworth, are a particular focus of this report.

Figure 1: A case study of the Northern Inland region of NSW

The first stage of the project used the best available data to profile the Northern Inland region and understand how it is positioned in regards to technological readiness. The overview detailed infrastructure access, household take-up of broadband and technology-based economic activity to identify where the barriers and opportunities lie.

This information was presented alongside local aspirations and a broader discussion about the Northern Inland region’s economy. Both these areas provide invaluable context to improve understanding of the region’s needs and aspirations.
The second stage incorporated perspectives of the local community into this profile. These perspectives were provided by two focus groups, a workshop and a series of conversations with local leaders. This contributed vital local knowledge and an understanding of how local residents, business people and community leaders view telecommunications.

This report is the final stage of the project. It presents an overview of the current state of telecommunications in the Northern Inland region and identifies the vast amount of work already being done to improve the region’s access and engagement.

The report also includes recommendations on how the region can continue to grow, prosper and improve connectivity through collaboration and the use of communications technologies.
Profiling the Northern Inland Region

The Northern Inland region is located in North-east New South Wales. It comprises 13 local government areas (LGAs), the largest of which are Armidale Dumaresq and Tamworth Regional. The region covers a land area of 98,606 square kilometres and has a population of 183,000.

The Northern Inland region is predominantly an agricultural area. The larger towns in the regions, particularly Tamworth and Armidale, have more diverse economies.

Figure 2: Map of the Northern Inland region

[In]Sight: Australia’s regional competitiveness index (see appendix 1) measures a region’s technological readiness in three ways:

- Infrastructure access;
- Household take-up; and
- Technology-based economic activity.
Looking at the region as a whole (Figure 3), the Northern Inland region’s competitive advantage lies in its infrastructure access.

The Northern Inland region ranks above average for broadband coverage and is ranked average for mobile coverage.

Despite ranking above average for infrastructure access, household take-up of communications technologies (measured by percentage of households with internet connections) is below the national average. Only 68.5 per cent of households in 2011 in the Northern Inland region had an internet connection.

It should be acknowledged that this data was collected before the roll out of the National Broadband Network (NBN). It is likely that the current levels of both infrastructure access and take up rates are higher in the Northern Inland region.

At the LGA level, there is a clear divide between different parts of the Northern Inland region (figure 4).

**Ardie and Tamworth are the most competitive local government areas in the Northern Inland region for measures of technological readiness.**

They are ranked 110th and 199th respectively out of all 563 LGAs in Australia. Armidale and Tamworth are the largest centres in the region and provide many services to nearby towns, so the higher overall ranks are not surprising.
Armidale ranks consistently higher for all indicators of technological readiness with the exception of mobile coverage.

It is likely that more updated data would show an increased competitive advantage, particularly for internet connections and coverage. Armidale was one of the first regional areas connected by the NBN in 2012.

Tamworth is more competitive than other parts of the Northern Inland region for all of the indicators of technological readiness except two - internet connections and mobile coverage.

Uralla ranks highly for technological readiness despite its relatively smaller size.

Since the early 2000s, Uralla has been working to build an information technology cluster in the council area.

"Recognising that information technology [IT] is a growth industry that can be located anywhere in the State, Uralla Shire Council became the lead agency for the New England smart communities action project. This agency aims to attract new IT business to the region and the Uralla IT cluster is one of its success stories."

David Campbell, former NSW Minister for Regional Development

It is likely that this cluster has contributed to Uralla’s competitive advantage, particularly for the indicators measuring employment in ICT and technology-related industries.
To properly understand the benefits of both Armidale’s and Tamworth’s competitive advantages in technological readiness, we have to understand how they engage with telecommunications.

Overall, there are five key ways in which regional Australians are using telecommunications (see figure 5);

- Business;
- Education;
- Health;
- Emergency services; and
- Government services.

Figure 5: How do the regions engage with telecommunications?

**Armidale and Tamworth rank at or above average for most indicators measuring access to and engagement with health and education services.**

This is not surprising given Armidale has a hospital and is home to the University of New England as well as a large number of secondary education facilities. Tamworth is also home to a major regional hospital and campuses of the University of New England and the University of Newcastle.

When asked in recent focus groups to characterise their community in terms of their technological readiness, Armidale in particular saw itself as being very switched on as a university town with lots of forward thinking students and staff.

**The lower rankings for entrepreneurship in the region suggest a greater business focus would offer the potential for growth.**

Community action to date aligns well with a business focus given many local groups and initiatives concentrate on building business capacity (for more information see page 14).
Mobile internet is opening up new market opportunities and there is significant growth in M-commerce (buying things from a mobile device). This means businesses in regional Australia can sell goods and services to people anywhere at any time of the day.

Mobile devices mean that no matter where you are, if there is coverage, you can remain connected. The number of internet connected devices will likely increase substantially over the coming years as the ‘Internet of Things’ progressively integrates many aspects of our lives with appliances and devices.

This is particularly exciting for agribusinesses. For example, farmers no longer need to be going to the paddock to check irrigation levels. Machine-to-machine (M2M) technology means that farmers can use their mobiles to monitor and adjust water levels remotely. M2M technology can also enable automatic seamless ordering of seeds, fertiliser and vaccinations and deliver real-time updates from the field – paddock by paddock, or even animal by animal. It's not hard to imagine how these innovations can change the lives and improve the livelihoods of Australians on the land.
Telecommunications are now essential for people to connect, work and run businesses. Communications technologies will play an increasingly important role in enabling people to participate in the economy and will drive a productivity benefit to the Australian economy that is estimated at $11.8 billion over the period to 2025.\textsuperscript{vi}

Armidale and Tamworth rank 459\textsuperscript{th} and 445\textsuperscript{th} respectively for income source - own business. This is a measure of individual income-earning capacity and entrepreneurship. For the measure of business start-ups, they rank 362\textsuperscript{nd} and 371\textsuperscript{st}. These relatively low rankings identify two areas of opportunity for the local economy given the region’s competitive advantage in infrastructure access.

Lower rankings for income source - own business indicate that profits from locally-owned businesses are comparatively smaller. Communications technologies offer local businesses the opportunity to communicate and transact with customers and suppliers online, wherever they are located. As well as an important revenue and promotional channel for retailers, communications technologies can help improve business productivity. For example, mobile applications can help business owners manage administration tasks anywhere and anytime.

For start-ups, communications technologies offer huge opportunities. There are numerous online resources to help build and manage a business and connect with like-minded entrepreneurs, mentors, or experts in their field of interest. Starting a business is now a viable option for many as communications technologies help to lower start-up costs and provide access to a larger group of potential customers online.

A number of local businesses are already making the most of Armidale and Tamworth’s competitive advantage in technological readiness. The case studies below explore how different businesses in the Northern Inland region are engaging with telecommunications.

**CASE STUDY NUCLEO**

*Nucleo* is a creative agency based in Armidale. Its services include web design, graphic design, video, content generation and marketing services. About 70 per cent of its work is web-based, meaning a fast and reliable internet connection is vital.

In a recent interview, the company cited the importance of the cloud and how it has now made working at home a viable option for the Nucleo staff.

“All files needed for projects are now available in the cloud making work from home a real option for staff.” For these businesses, telecommunications is a core component of what they do. It is also a vital part of the day-to-day running of each business.

Recent work by the RAI identified that laptops, smartphones and cloud-based computing systems are making work outside of the traditional office environment increasingly possible. Whether it is sharing content, connecting with different markets or providing flexible working models for staff members, telecommunications has enabled these businesses to grow and develop.

The ability to be mobile and have phone coverage and internet access in different locations have also been highlighted as being important for business success. In the Northern Inland region for example, farms and farm owners are an important part of a business’s clientele, meaning that being able to travel out of town but remain connected to their business is critical.

Adrian Wood, Director of Whitehack credited telecommunications as being vital to a number of innovations within the company. His approach shows that telecommunications can help to improve how a business functions, but also influences the variety of products and services that the business can offer. The availability of fast connections creates opportunities to approach problems differently.

**CASE STUDY WHITEHACK**

*Whitehack* is an IT security consultancy of self-described ‘ethical hackers’. Using the same approaches and skills as a hacker, Adrian Wood and his team identify potential weaknesses in a company’s network to maximise that company’s security.

Established in late 2012, *Whitehack* is just one of the businesses that have relocated to Armidale following the NBN roll out.

"My business did not and probably would not have operated in Armidale prior to the NBN. The nature of my work requires a significant amount of bandwidth in order to deliver results in certain types of testing."

*Whitehack* is a company that many would expect to need a Sydney or Melbourne office, but the regional location doesn’t seem to deter the success of the business that services clients both in Australia and internationally, although Wood admits that accessing skilled staff can sometimes present a challenge.

That said, being based in Armidale, with its access to the NBN, has made *Whitehack*’s operations more cost effective.

“We use up to three or four terabytes of data a month and if I did that on an ADSL connection, it would cost me thousands of dollars and take a lot longer to download.”

The Players - Who creates success?

The positive engagement with telecommunications in the Northern Inland region, particularly Tamworth and Armidale, is the result of the efforts of a number of different groups and individuals.

The roles and responsibilities of different groups vary across different communities, and identifying the key players and their roles in Armidale and Tamworth provides a better understanding of the complex environment.

It is probable that any of these groups working independently would struggle to achieve the levels of success the region currently enjoys.

Government

In terms of telecommunications, the Federal Government plays a role in setting current objectives and providing resources and funding that help all Australians realise the full potential of digital technologies and communication services. Two of the current examples of Government initiatives are the Mobile Black Spot Programme and the NBN.

The Mobile Black Spot Programme is the Federal Government’s initiative to extend mobile telecommunications coverage and competition in regional Australia. This is a vital issue for the development of regional Australia, more so than for the capital cities.

The 2015 Regional Telecommunications Review identified that:

“The quality and extent of mobile coverage was a major concern of people in regional Australia. Regional Australians have a higher dependency on mobiles than their urban counterparts because of the broader geographic range within which many conduct their working and everyday lives.”

Over four financial years (2014-15 to 2017-18), the Federal Government has committed $100 million to deliver Round One the Programme. A further $60 million has been committed by the Government for Round Two of the Programme, with funding to be available over two years from 1 July 2016. New South Wales is one of the State Governments contributing funding to the Programme, committing a total of $24 million for Round One.

Round One of the Programme will see Telstra and Vodafone deliver 499 new and upgraded mobile base stations across regional and remote Australia. Vodafone alone has received funding for 18 mobile phone base stations in the New England electorate. In addition to the Federal and state government funding commitments, the Programme has leveraged significant private sector investment. The total to be invested in new and upgraded mobile base stations under Round One of the Programme is $385 million.

The aim of the NBN is to give Australians access to fast, reliable phone and internet services from a range of providers. NBN Co. is a wholly-owned Commonwealth company which is designing, building and operating the network at an estimated cost of up to $56 billion. In the next five years, NBN Co. is aiming to have 8 million premises connected.

Armidale was one of the first areas to access the NBN. Currently only select areas of Tamworth are connected to the NBN. In 2013, take-up estimates in Armidale were just under 30 per cent. As the copper wire network was switched off in the areas receiving NBN fibre in mid-2014, it is expected that this number is closer to 80 per cent.
As noted in the 2015 Regional Telecommunications Review, regional Australians have much to gain from the arrival of higher bandwidth and higher quality fixed broadband services. We can expect significant improvements to lifestyle and business productivity as the NBN continues to roll out in the Northern Inland region.

**Telecommunications companies**

Telecommunications companies provide voice and data services to their customers. They can either own their telecommunications networks or use an external network to supply services. These can include mobile services, landline phone services, internet access services and Voice over Internet Protocol (VoIP) services.xvii

In comparison to many other countries, the dispersal of Australia’s population and the size of the geographic landmass results in more challenging environment for building telecommunications infrastructure and serving the needs of the population.

Despite the investment to date in the Northern Inland region, mobile coverage gaps remain in areas that are uneconomic to serve. In these areas, telecommunications companies could look to partner with government and local communities to deliver solutions to meet the community’s demands for mobile coverage.

The Mobile Black Spot Programme is an example of this approach under which infrastructure sharing is encouraged through the awarding of government funds. As a result, costs are reduced as investments are shared and this in turn increases the economic viability of regional network expansion.

**University of New England**

The University of New England (UNE) was the first Australian university established outside of a capital city.xviii UNE is located in Armidale but works to service the broader region through ten Regional Study Centres and opportunities for online learning.

In addition to its obvious roles in educating students, UNE has been helping to drive the use of technology and telecommunications in industry. The SMART Farm is arguably the best example of their efforts.

UNE has transformed a commercial farm into a SMART Farm (Sustainable Manageable Accessible Rural Technologies Farm). The SMART Farm showcases the latest in on-site farm technologies aimed at improving productivity, environmental sustainability, safety, workflow and social and business support networks.xix

UNE also played a key role in the Broadband Smart House. The Broadband Smart House in Armidale NSW is a facility designed to demonstrate the opportunities the NBN can make available to ordinary Australian homes. These include education, e-health, remote business, sustainability, security and home automation.

The Smart House is a combined initiative by the RDA Northern Inland, University of New England, New England Institute of TAFE, NSW Department of Industry, Australian Centre for Broadband Innovation and Sam World.xx

Opportunities are currently being explored to move three PhD students into the house. These students will identify and test household automatic and monitoring technologies to improve the quality of life for older people who remain in the family home.
Regional Development Australia Northern Inland

RDA Northern Inland has been very active in the telecommunications space for some time. It has provided vital strategic direction through the *Northern Inland Digital Economy Strategy for Businesses*.

The *Digital Economy Strategy for Businesses* is a strategic document developed by RDA Northern Inland to help the region take stock of its opportunities and challenges and make more informed decisions in the future.

The strategy focuses primarily on how high-speed broadband can contribute to the growth of existing private sector businesses, together with opportunities for ‘new’ technology firms to establish themselves in the region.

The 2015 Regional Telecommunications Review acknowledged how important it is for regions to adopt a strategic approach to participating in the digital economy. They also identified the RDA committees as the ideal bodies to undertake the task.

If properly engaged and utilised, this document offers a significant advantage for the Northern Inland region (for a more detailed summary of this strategy see Appendix 2).

The RDA is also working to action their strategy through their most recent initiative *Come on Shopping*. *Come on Shopping* will provide an online shopping centre experience for the Northern Inland region.

This initiative aims to help local businesses to take advantage of the benefits of having an online store and tap in to the $15 billion online shopping market. *Come on Shopping* will provide users with access to a customisable and easy to use website. A dedicated support person will be available to all participating businesses to help answer any technical questions they may have. This initiative is currently in a trial stage and likely to be rolled out within the coming months.

Local councils

Like RDA Northern Inland, many of the local councils in the region have recognised the importance of technological readiness for their communities. Consequently they have played an active role in helping their local communities to better access and engage with telecommunications.

The Tamworth Digital Hub for example has helped more than 4,000 people in a space of two years access training and support to improve their digital literacy.

The Hub was a funding initiative of the Department of Communications with the Tamworth Regional Council. Although the doors for the Tamworth Digital Hub closed in March 2015, this facility can still be booked for use.

Many of the local councils are also involved in the Digital Economy Taskforce. The Taskforce brings together a number of different organisations and interests from across the Northern Inland region, including many of the local councils, Regional Development Australia Northern Inland committee, NSW Department of Industry, NSW Business Council and NBN Co.

The core roles of the Taskforce are to maximise regional NBN coverage and encourage the use of Information and Communications Technology (ICT) to improve the performance of existing businesses, social and government activities.
Community

In addition to these formalised institutions, local community groups have also taken up key roles in the Northern Inland region.

The New England Techfest is run by the local Rotary. This expo brings businesses and consumers to come together to discuss emerging technologies. The core themes of expo centre on entrepreneurship and start-ups.

Presentations and talks celebrate those who have launched successful start-ups, and draws upon the knowledge and experience of others in technology and entrepreneurship.

“We hope the talks will encourage others to take the leap of faith and launch a business knowing there is a support network of colleagues, researchers and funding around them”.

Local schools are also encouraged to bring students along to promote entrepreneurship and future careers in science and technology based industries.

Techfest is still a fairly recent initiative and local organisers are working hard to make it even better in the coming years. A number of large companies have already indicated a strong interest in being involved in Techfest 2016.
Cooperative Development

This study of the Northern Inland region shows a complex system, where a number of diverse groups are working together to improve technological readiness. Overall it is a strong example of the potential success cooperative development can achieve.

Cooperative development in this instance refers to different parties working in collaboration to achieve shared goals. Importantly it is an opportunity for all parties to identify their shared aspirations and work together to achieve them. A cooperative approach enables service providers and communities to work together to help fast-track development and achieve better outcomes.

Cooperative developments are becoming increasingly important for telecommunications. Many of the areas that do not have adequate telecommunications infrastructure are economically challenging to service, meaning that it is unlikely that telecommunications providers will independently invest in these areas.

This challenge was highlighted in the recently released Regional Telecommunications Review. Exploring opportunities to share telecommunications infrastructure in regional Australia is a consistent theme in a number of the Review’s 12 recommendations.

“Despite these gains, and the fact that Australians enjoy among the highest penetration of mobile broadband in the world, the low population density over the remaining geography means that new approaches are needed to assess the priorities of those in the 70 per cent of Australia’s land mass that has no mobile coverage, and to improve poor coverage elsewhere. These geographies are economically challenging for the extension of existing high speed mobile networks.”

Creative responses are needed to deliver solutions to meet regional Australia’s unique and diverse needs. This includes pursuing collaborations between telecommunications companies, businesses, local communities and Government.

Encouragingly for the Northern Inland region, participants in recent focus groups identified the opportunity for better collaboration to improve telecommunications infrastructure.

“If we all got together we could have near 100 percent coverage in this area.” [Tamworth]

“We need teamwork.” [Armidale]

In many regional areas it doesn’t make economic sense to duplicate telecommunications infrastructure. There is a clear role for governments to play in supporting and facilitating cooperative developments in order to improve regional coverage and competition.

The Mobile Black Spot Programme is directly facilitating this cooperative development approach. It provides communities with an opportunity to contribute to the decision making process and provides clear pathways for government, telecommunications companies and local communities to work together. The Programme also facilitates infrastructure sharing by telecommunications companies which reduces costs and increases choice for local communities.

If implemented, an annual Mobile Black Spot Programme could provide further opportunities for cooperative development and assist the telecommunications planning process undertaken by regional communities. More information about the different policy options to improve telecommunications coverage and competition in regional Australia is provided in the 2015 Regional Telecommunications Review.
Lessons for successful cooperative development

White Rock Wind Farm is a good example of cooperative development in action in the Northern Inland region. Collaborations like this should be the norm, rather than an exception.

CASE STUDY WHITE ROCK WIND FARM

White Rock Wind Farm is located between Glen Innes and Inverell, south of the Gwydir Highway. The NSW Government has approved construction and operation of up to 119 wind turbines at the site. The Wind Farm will not only provide clean energy but is also the first location for new mobile telecommunications infrastructure being rolled out in the Northern Inland region under the Mobile Black Spot Programme.

Vodafone had already committed to build a new mobile tower to improve coverage west of Glen Innes, with support from the Federal Government, the NSW Government, Inverell Shire Council and Glen Innes Severn Council under the Mobile Black Spot Programme. Goldwind, an international wind power company, subsequently approached the mobile network operator with an offer to co-locate its mobile antennas on one of their wind masts.

The 90 metre wind mast that will host Vodafone’s antennas is significantly taller than a standard mobile tower, meaning it provides vastly improved mobile coverage to customers in the area. The site has been in operation since December 2015 and covers nine of the mobile black spots identified in Round One of the Mobile Black Spot Programme. Goldwind is also able to provide its workers with mobile phone coverage and data to ensure the safety of the workers and enable the day-to-day functioning of the site.
Figure 6: The official opening of the White Rock Wind Farm mobile tower

(L-R: Cr David Jones, Inverell Shire Council; Adam Marshall MP, Member for Northern Tablelands; Hon. Barnaby Joyce MP, Member for New England and Mr Iñaki Berroeta, CEO of Vodafone.

Sharing infrastructure in this manner makes a lot of sense, but the opportunity could only have been identified through creative thinking by people already well informed about activities in the region.

The discussion about roles and responsibilities in the Northern Inland region highlights a number of examples of cooperative development including the Mobile Black Spot Programme and the Broadband Smart House. It also offers some key insights into what factors help to drive successful cooperative development.

The first of these is the importance of involving the local community. Positively engaging the local community enables project proponents to have a wide support base and a large pool of potential resources which they can draw upon.

Communities likewise need to be proactive in identifying opportunities for future development and communicating their aspirations. This will enable them to better take advantage of opportunities to collaborate when they arise. Examples of this could include identifying potential sites for new infrastructure and managing community impact.

Aligning a project’s aspirations with the community’s vision for its own future is key to positive engagement. It clearly demonstrates the value of collaborating and increases the likelihood that they will want to work together. Shared goals are also important.

Even for those who may not be actively seeking collaborators, maintaining an awareness of what the different players are up to is important. It allows project proponents to keep ahead of changing trends and agendas and minimise duplication.
The final insight is the importance of considering a wide range of collaborators. White Rock Wind Farm clearly shows that sometimes the most advantageous collaborations can come from unlikely sources.

Cooperative development is a number of different parties working together to fast track development and achieve better outcomes in regional development. Lessons from the Northern Inland region:

1. **Work with the local community**
   - Positively engage the local community and provide genuine opportunities for them to be involved in your initiative.

2. **Align goals & aspirations**
   - Identify your shared goals and align them with the community’s vision for the future.

3. **Stay aware & connected**
   - Maintain an awareness of emerging players and relevant trends to ensure the continued relevance of your initiative and avoid duplication.

4. **Seek new partnership opportunities**
   - Opportunities for cooperative development may come from unlikely sources so it is important to look beyond the usual pool of collaborators.
Recommendations for the Northern Inland region

Armidale and Tamworth have competitive advantages in technological readiness - Armidale in particular with the roll out of the NBN. The case studies presented in this report and the many active community groups are evidence of a highly engaged population.

It is important, however, that the advantages of telecommunications are accessible to the wider community, not just those with current skills and knowledge. There are examples of programs to help increase digital literacy such as the classes run through the Tamworth Digital Enterprise Program. This should continue to be a priority where possible.

It is also recommended that current community groups continue to look for new opportunities to engage not only with the Northern Inland region but also external parties.

The Government’s Mobile Black Spot Programme provides the opportunity for community-led prioritisation of mobile black spot sites and the development of local strategies to pursue cooperative development opportunities.

As discussed in this report, there are several different groups that help to provide telecommunications infrastructure. Actively seeking opportunities to work together or to align common interests and activities where appropriate can help to maximise outcomes. The case study of White Rock Wind Farm shows that opportunities may come from unexpected places.

To assist communities in pursuing cooperative development opportunities, the Australian Communications Consumer Action Network (ACCAN) has developed a Community Consultation Guide (see appendix 3).

The Guide sets out steps to help local communities develop the case for improving mobile network coverage by developing a co-investment plan or road map to increase the viability of telecommunications companies investing in communities.

This could include local communities identifying appropriate sites for new mobile towers that meet local planning needs, have ready access to power sources and are easily accessible. Opportunities also arise from co-locating telecommunications infrastructure on existing buildings or as part of local government and utilities projects.

Although technological readiness is currently a strength for Armidale and Tamworth, the continual roll out of the NBN in other parts of the country will mean that other towns and regional cities will soon have access to similar advantages.

It is important that the Northern Inland region continues to grow its competitive advantage and evolve as new opportunities emerge. Creative thinking and community action will be a core part of this but current community groups and initiatives demonstrate that this is well within the Northern Inland region’s capability.
Appendix

Appendix 1 [In]Sight: Australia’s Regional Competitiveness Index

[In]Sight: Australia’s regional competitiveness index provides a lens on where we are now and what advantages Australia can build on to shape a prosperous future.

Using internationally proven frameworks, [In]Sight provides 624 competitiveness profiles at the Local Government Area (LGA) and regional level. Data and rankings for ten themes and 68 indicators capture the competitive position of each part of our nation.

More information about [In]Sight can be found in the [In]Sight 2014 User Guide.

Appendix 2: Summary of the Northern Inland Digital Economy Strategy for Business

The principal focus of the Northern Inland Digital Economy Strategy for Business is to identify the opportunities and benefits of high speed broadband. It aims to answer a basic question about how high-speed broadband helps drive growth in the economy within existing and new private businesses in productivity, growth in sales and revenue, employment growth, innovation, and inward investment.

The Strategy is intended to be used by RDA Northern Inland, the Federal Government, the thirteen LGAs in the region and anyone with a passion for the online world including businesses for the development of the Northern Inland digital economy.

This ten year strategy sees a community that includes the public, businesses, and government bodies that are:

- Connected to all available internet infrastructure including the National Broadband Network in all its forms, as well as 3G and 4G wireless, this includes the towns and communities west of the New England Highway as well as those along it;
- Committed to wholesale acceptance that digital technologies must become intrinsic to business and lifestyle. This will require support at the ‘grass roots’ level, but for some will mean the difference between not only expanding business but also for survival;
- Coordinated to empower business communities and government bodies using the right digital tools and systems which are essential for success will also mean taking control of the future of the Northern Inland economy in a planned way.

Although the Strategy focuses specifically on high-speed broadband there are a number of key messages for telecommunications more broadly.

Some of these are quite specific such as the opportunities that teleworking presents:

“…being able to operate in the cloud from any point or location or time online whether from a laptop, smartphone or tablet in a mobile, or teleworking environment is said to add up to 30% productivity in output terms to businesses.”

Others apply much more broadly such as acknowledging that there are both internal and external forces that impact how a region can access and engage with telecommunications.

Identified internal forces include low levels of digital literacy; low levels of Digital Strategy development in businesses and late adoption.

The acknowledged external forces are:
• Ubiquity (the availability and levels of access to the technology across the business community);
• Affordability (the extent to which digital services are priced in a range that makes them available to as many people as possible);
• Reliability (the quality and consistency of available digital services including levels of redundancy); and
• Speed (the extent to which digital services can be accessed in real time).

It also acknowledges the varied parties that need to be involved in achieving the Strategy’s objectives.

“... the vision of the future for commercial entities within the Northern Inland region must be one which is connected, committed, and coordinated. Chambers of Commerce, Local Government, State, and Federal Agencies, universities, TAFE, and the private sector need to work collaboratively to provide solutions and resourcing which will make digitisation happen at a pedestrian level....”

A full copy of the Northern Inland Digital Economy Strategy for Business is available on the RDA Northern Inland’s website here.

Appendix 3: ACCAN Community Consultation Guide

In December 2014, ACCAN launched the Community Consultation Guide which is designed to help communities address issues with mobile coverage in their areas.

Mobile coverage is a key issue for consumers, particularly those in regional, rural and remote Australia. Achieving improvements in mobile coverage is a priority focus of ACCAN’s work. The Federal Government’s Mobile Black Spot Programme will deliver improvements to mobile coverage, but the demand for these improvements will far outstrip supply.

The Guide sets out steps to help communities understand what mobile network operators look for when weighing up where to invest and it gives information on who they can contact and potentially partner with to achieve results.

A copy of the Guide is available on ACCAN’s website here.
End Notes

i Deloitte Access Economics (2013) Mobile Nation: The economic and social impacts of mobile technology

ii Regional Development Australia Northern Inland (2015) The Northern Inland Region of NSW


iv Parliament of New South Wales, New England Information Technology and Business Opportunities: Interview with Mr John Price and Mr David Campbell


vii The Regional Australia Institute (2015) Login or Logout? Online work in regional Western Australia


x Department of Communications (2014) Mobile Black Spot Programme Guidelines

xi Department of Communications and the Arts (2015) Joint Press Release: Mobile Black Spot Programme to deliver almost 500 new or upgraded base stations with total investment of $385 million

xii Department of Communications and the Arts (2015) Joint Press Release: Mobile Black Spot Programme to deliver almost 500 new or upgraded base stations with total investment of $385 million

xiii The Armidale Express (2015) Vodafone opens in Beardy Street Mall


xvii Australian Communications and Media Authority (2015) Carriers & carriage service providers


