30 September 2021

Committee Secretary
2021 Regional Telecommunications Review Secretariate
Department of Infrastructure , transport, Regional Development and Communications
GPO Box 594
Canberra ACT 2601

Dear Committee Secretary

Greater Whitsunday Regional Digital Connectivity Forum Stakeholders Submission to the 2021 Regional Telecommunications Review

Thank you for the opportunity to make a submission to the Regional Telecommunications Independent Review into regional telecommunications. The Greater Whitsunday Regional Digital Connectivity Forum (RDCF) is an amalgam of stakeholders from local government, regional industry sectors, and economic development organisations located within the Mackay, Isaac, and Whitsunday local government regions. The purpose of the RDCF is to address priorities within the regional digital connectivity space through collaboration.

 The RDCF:
- Works closely with telecommunications providers, State and Federal government bodies to ensure the best outcomes for digital connectivity in the region.
- Identifies partnership opportunities with Telco's to address blackspot solutions and potential for shared infrastructure.
- Identifies collaborative digital infrastructure opportunities that benefit the region and regional priorities for connectivity improvements.
- Reviews current planning policies and opportunities to deliver first world mobile and internet network infrastructure in new development.
- Accelerates opportunities for value adding digital infrastructure and technology opportunities in key and emerging industry sectors.
- Informs the development of a Regional Digital Roadmap (currently underway).

This submission to the 2021 Regional Telecommunications Review has been drafted by the RDCF and both Regional Development Australia – Greater Whitsundays and Greater Whitsundays Alliance specifically seek to recognise the contributions from staff from Whitsunday, Mackay and Isaac Regional Councils.

Introduction
The Mackay, Isaac and Whitsunday region known as Greater Whitsunday requires investment and support to meet current and future challenges related to telecommunication services and to catalyse regional well-being and prosperity.

The importance of well-functioning, supportive digital connectivity has been underlined by COVID-19 and is seen as critical in the region's preparedness and recovery responses to natural disasters (typically cyclones and bush fires occurrences).

The Greater Whitsunday region is home to 174,816 people, a land area of 9.01 million hectares and a diversified regional economy with total annual outputs of just over $42 Billion. Located in the strategic heart of Northern Australia, Greater Whitsunday is one of Australia's economic powerhouses, with substantial contribution to Queensland's employment, output and exports underpinned by the strength and depth of its knowledge-intensive mining, advanced manufacturing, agriculture, transport, tourism, and construction industries. The region has a strong focus on the growth of high technology industries.

Addressing the Terms of Reference and List of Questions as outlined in the 2021 Regional Telecommunications Review Issues paper

This submission will briefly address the 2021 Regional Telecommunications Review Key Issues and corresponding Review Paper questions.

Q1. What telecommunications services are required in regional Australia to meet current and future needs? Are there any things regional communities and businesses need to do, but can't, on their existing services?

Issue:
- Copper landlines underpin phone services and are utilised by NBN Co as part of the fibre to curb or node solution. There are many instances of failing copper lines for what is often referred to as "the last mile of copper".

- The impact of the copper line failures results in customers experiencing marginal to no improvement compared to pre-modern connectivity offerings. While customers can have copper lines replaced, this is often at significant cost to the individual or SME business.

- It is evident that a return on investment (ROI) business model for replacement of copper lines relies heavily on most consumers and SMEs in the area adopting telco plans and programs at supply levels of connectivity more than what's needed before copper lines are replaced.

Solution Recommendation:
- Focused investment for replacement of copper lines is required via fibre to premise and/or greater utilisation of fixed wireless solutions. Additionally, where consistent copper line failures are being experienced, this replacement should not be at the expense of the customer where services previously were adequate prior to the copper line failing.

Issue:
- Connectivity and speed barriers exist as a result of limited digital and connectivity literacy by both retail consumers and SME's. This poor literacy often manifests into community and business perception of poor or slow connectivity, when good connectivity exists and/or the plans, systems, and products being utilised are outdated; or the service/product chosen by the customer was never designed to meet the real expectations and consumer requirements.

- Those providing telecommunications literacy and connectivity advice are often the telco's selling the product or service. There is a perception within community that telcos are not independent or transparent when it comes to telecommunication information and product or service choice and best fit.

Solution Recommendation:
- Enhance digital and connectivity literacy via a federal government funded and coordinated regional telecommunications literacy program to equip consumers with better knowledge and understanding of the right telecommunications fit for them (fit for purpose services and products). This will result in:
    - An improved experience that yields ongoing growth and demand for additional services and products to in turn drive more users and digital utilisation, which supports improved ROI for telecommunications investors and developers and better returns for telcos.

- Establishment of taskforces chartered with the role of developing community supported telecommunications literacy strategies and operational programs focused on increasing community telecommunications awareness and understanding.

- Funded staff support for delivery of independent literacy programs which could be aligned to place based solutions to improve digital and connectivity literacy.

Issue:

- Remote communities currently struggle with limited commitment by telco's and NBNCo to provide fibre infrastructure into these regions, based on the ROI. Currently we are seeing increased development and deployment of satellite-based solutions and it is hoped this will introduce competition to the telco's and NBNCo in this space, driving down price, whilst increasing reliability, speed, and service coverage.

Solution Recommendation:

- Satellite services are the preferred offering in support of mobile and internet services. Continued investment in the low orbit satellite industry to improve affordability of satellite-based solutions.

- For cost effective solutions, mandate the use of shared infrastructure, hardware model (i.e., Telstra, Optus, and Vodafone – using shared equipment off the same towers). This mandate should also flow through to the Mobile Black Spot funding program and the Regional Connectivity Programs.

Q2. What changes in demand, barriers or challenges need to be addressed when it comes to telecommunications services in regional, rural, and remote Australia?

Issue:

- More analysis is required to understand why new black spots are occurring and how to prevent them in the future. In reviewing NBNCo and mobile coverage maps it is evident that blackspots not only exist in areas of historical poor coverage due to topography and/or low number of users and low volumes of digital use, but also in developed or emerging development areas. Better understanding current problems occurrences will prevent future occurrences.

- For new development areas, current legislation and policy frameworks do not adequately cover the current technologies in place. The cost toward this type of investment is placed on the developers, which in some cases is avoided, resulting in continued growth of the black spot problem for both internet and mobile services.

Solution Recommendation:

- A different approach to ensure critical trunkline infrastructure is being built into designated development areas, ahead of development. Ideally the following key considerations could support a proactive solution to removal of new black spot areas:

  - Local Government development plans could form the focus of regional infrastructure planning. These planned development corridors can be better served by joint ventures/co-funded models.

  - Preferred joint ventures/co-funded models include Local Government Infrastructure Services and other funding via Grants Funding, road and water infrastructure managers and developers, NBN Co, Telco's, and energy distributors to provide access to infrastructure and services into the development corridors, in preparation for development (by developers) on the land beside these corridors. Benefits include:
    a. core fibre services, mobile towers, TV and Radio towers are identified early and planning to the scale and density of the proposed zones.
    b. enabling developers to focus on connection to corridor services and reduce their cost of connection.
    c. ensuring adequate planning and approvals are in place for towers (mobile, TV, Radio, NBN wireless).

  - State and Federal legislation to develop the policies and processes to allow Local Government to enforce and verify that developers have provided a minimum level

of services to each allotment (i.e., NBN to Curb). Also, focus on changing perception of being an extra cost to development, but a required cost to ensure liveability and safety for residents.

- State and Federal legislation to develop the policies to allow Local Government to enforce/verify:
  a. the requirement that mobile and broadband services in a development area meets a minimum agreed standard (i.e., 4GX – three bars) to ensure liveability and safety for residents.
  b. that when smaller parcels of land are subdivided, they carry adequate communications infrastructure as per water, power requirements or at minimum a "buyer beware clause" is in place, aligning to the principle of ensuring liveability and safety for the purchaser.

- Ensure backhaul services into regions are scaled for the planned growth.

Q3. How have the Government's policies and programs affected telecommunications service outcomes in regional, rural, and remote Australia? How can these be improved?

It is important to outline that government policies and programs have to date made consistent and an ever-improving impact toward enhanced regional and rural telecommunications. As with all actions, the focus is toward continuous improvement over time.

Issues:
- It is evident in rural and remote locations, we have reached or are getting close to reaching a point where the telco's commercial ROI realised from the upgrade to telecommunications infrastructure, is unlikely to support a direct positive economic return for the telco.

- While current telecommunication grants programs utilise public funding to provide better ROI, there is still clear focus via the telcos and government toward supporting those investments that have a higher direct ROI for the telcos. The challenge in these cases is that often while the ROI for telco's is not high the benefit to community liveability and prosperity is still incredibly positive.

- The ROI for the region and remote communities is remarkably high where the benefits are not attributed to any one particular entity, sector, or business. As a result, it is often difficult to find other commercial investors, and telco's do not see upgrades as a sound investment.

Solution Recommendation:
- In this regard it is important that government (at all levels) adopts policies and programs aligned to telecommunications, supported by higher levels of government investment to ensure all Australians have access to appropriate telecommunication services for modern day community aspirations.

Q.4. How do service reliability issues impact on regional communities and businesses? How do outages, including in natural disasters, impact on communities and businesses?

Issues:
- Key issues on reliability include:
  1. NBN network – ageing copper in most cases
  2. ISP – oversubscribed services in areas
  3. Issues at the consumer residence (PC, router etc)

A regular example of a consumer's journey:
  1. You call ISP, who will focus on your equipment first. Which most people struggle with.

2. The ISP will make some changes at their end but will refrain from telling you they are over-subscribed. (Knowing the level of load on a service you are subscribing too is important, but not something most consumers would understand).
3. If the problem persists the user may swap ISP to a less congested one.
4. The ISP may decide to lodge a job with NBN Co, and then the focus on the copper lines and as an individual the consumer must pay, usually via upgrading the plan or term.

- As you travel from the city centres across the Greater Whitsunday region, both broadband and mobile coverage and services support becomes inconsistent outside larger regional towns with service offerings slow and costly.

- There is no commitment by telco's and NBNCo to provide cable infrastructure into these regions, based on ROI.

- Satellite services are the future and delivery of mobile and internet services via low orbit satellites. This will introduce competition to the telco's and NBNCo in this space, driving down price, whilst increasing reliability, speed, and service coverage.

- Concerns regarding the degradation of copper lines and the impact this has on fibre to the curb, or node connectivity solutions implemented by NBNCo, is a common complaint from community and SME businesses in the Greater Whitsunday region impacting on previously existing service quality with slow and interrupted connection.

- There is a lack of certainty from telcos as to who is responsible for the repair of the copper line which is used for fibre to the curb or node applications making it difficult to get clear action.

- As a cyclone prone region and with high rate of tourism (impacted by COVID19), the Greater Whitsunday region relies heavily on telecommunications services prior to, during and post natural disasters and for business to confidently diversify or adjust to stay viable.

- It is vital that the communications network can be as robust as its users. For example, in cyclone impacted regions of Nth Qld, many residents have access to generator back up power utilised during power blackout periods.

Solution Recommendation:
- While it is understood that no communication network is 100% resilient to natural disasters it should be recognised that in many instances regional and remote communities often have localised solutions that can sustain access to power, water and living fundamentals through natural disasters, however telecommunication connection is not one of them.

- While it is acknowledged the Australian government, in investing to upgrade telecommunications services in regions to support improved recovery and resilience to natural disasters, it is very much a case of more is needed and priority for funding should be allocated to regions which have suffered significant telecommunications failure for sustained periods.

Q5. How might such impacts be addressed to ensure greater reliability? How can the network resilience be addressed in regional areas?

Solution Recommendation:
- More is needed to support improved telecommunications for recovery and resilience to natural disasters. Options to improve natural disaster telecommunications and aid in recovery efforts including increased investment to support the following:

  1. Satellite back-up connection to key emergency service depots and evacuation centres (when supported by solar, battery and/or generator backup). The determination of

these key investments where they are aligned to natural disaster risk assessment and priority investment, is associated with quantity of users and natural disaster frequency and impact and level of regional communication coverage required.

2. Mobile battery back-up for base stations where the backup provision is in line with fit for purpose needs. Current support programs seek to upgrade mobile base stations to 12hrs of battery backup life; however, this may not be suitable (not long enough) for some locations and hence solutions should support ability to ensure ongoing connectivity and be fit for purpose including:
   a. emergency power solutions, including generators, to rapidly restore services during or after a natural disaster event
   b. expanding or enhancing a protection zone around a site to increase its resilience to a natural disaster threat
   c. provision of redundant backhaul, and
   d. other hardening measures to increase the resilience of a site, such as flood elevation and physical hardening of sites.

- Increasing the number and availability of temporary boosting infrastructure such as cells on wheels, and mobile exchange on wheels and NBN road muster trucks which can be temporally positioned across regions. The investment to date in these temporary pieces of infrastructure is very limited in its ability to adequately service regional Australia.

- It is critical that the Government increases investment and focus on support and access to satellite telecommunication solutions for regional and rural Australia.

- Governments' investment in short term resolutions to mitigate natural disaster impact on telecommunications has involved improved power backup, however a long-term solution rests in access to low orbit satellite systems that can support regional and remote Australia communications. Satellite technology and utilisation within connected constellations of satellites, in time, may also overcome aspects of intermittent connection and as technology advances the interference from cloud cover and the like should become less prevalent.

Q6. How did the use of digital services change for regional consumers and businesses during the response to the COVID-19 pandemic? What insights for future service delivery does this provide?

Current Situation:
- The tourism and hospitality sector has seen a need for increased telecommunications solutions for their business due to requirements for non-contact services, support, and client tracking.

- The COVID-19 pandemic has led to a surge in the use of digital technologies due to social distancing norms and lockdowns. People and organizations all over the region have had to adjust to new ways of work and life.

- The use of telecommunications services has seen a higher uptake by mature aged people, who in some cases still struggle with digital literacy.

- There has been a requirement for business to adopt changes to work arrangements with staff, including working from home. Initial feedback from many businesses indicates a higher level of productivity being realised from a balance between work from home and work premise arrangements.

- More people in the region are buying from home via online services, this in turn drives business to create new customer centric telecommunications products and services.

- Education providers in the region have transferred to an increased delivery of online education offerings and are now very much focused toward online learning being the norm for many learners.

Q.7 What can be done to improve the access and affordability of telecommunications services in regional, rural, and remote Indigenous communities?

Issues:
- The increased costs of improved upload and download capability offers provide limited support for the disadvantaged in our community. Policy and program solutions to support a suitable minimum level of connectivity for all Australian's irrespective of the financial and social position is required. Just as we have policies for equitable access to health and education, we need to see the same regarding access and use of telecommunications.

- The general community feedback concerning service repairs and fix up is one of poor service from commercial providers and or limited-service provision. When direction is provided, customers are advised to raise a service ticket with their internet service provider, which is not leading to results. NBN will only look at clusters of issues when it comes to the network, so individuals usually must pay for the fix. In most cases customers are experiencing the blame game between the players and feel helpless and that the only option is to live with what they have or pay for the upgrade to achieve the required service.

Solution Recommendation:
- Investment toward digital and connectivity literacy within regional populations is required. This should be through programs that are independent of respective telco's information and marketing, thus are perceived by consumers as being neutral and not aligned to selling a particular product or service.

- Investment aligned to a federal program that supports a regional telecommunications taskforce of stakeholders where telecommunication solutions are fit for purpose to regional needs, with development of regional strategies and programs to overcome challenges.

Q8. How can investment in telecommunications infrastructure work with other programs and policies to encourage economic development in regional Australia?

Solution Recommendation:
- A focus is required toward ensuring telecommunications infrastructure investment is considered the same as all other trunk infrastructure aligned to development and planning.

- Ensure developers are required to meet not only current but future telecommunication needs and aligned infrastructure to support those needs.

- Management of improved telecommunications services and offerings is proactive vs reactive.

Q9. What role could innovation, including new models, alternative investors, or new ways of doing business, play to encourage investment in regional telecommunications infrastructure? What are the barriers?

- Australia should own and support low orbit satellite technologies and use that will change internet and mobiles services (coverage).

Q10. To what extent will new technologies enable significant change to the delivery of telecommunications services in regional Australia over the next 5-10 years? Are there any barriers to accessing these technologies?

Current Situation:
- The Greater Whitsunday region is currently experiencing a level of rapid transformation of its economy. While the industries of Mining, Manufacturing, Agriculture and Tourism dominate the

regional economy these sectors are rapidly adopting Industry 4.0 technology via the use of automation and technology augmentation.

- Industry is focussed on increasing productivity and safer workspaces via technology adoption and utilisation. The underpinning adoption of technology to support more timely and effective decision making in the workplace requires a telecommunication system and platform able to carry higher volumes of data and information delivering it in faster time frames.

- It is evident in the current discussion regarding modern technologies that the focus is very much toward improved connectivity from main towers and other infrastructure. There is little discussion or focus concerning the adoption of booster or repeaters technology within home or vehicles etc.

Solution Recommendation:
- Opportunities exists to inform the public more directly regarding the benefits of boosters and repeaters within regional, rural, and remote areas and given the additional cost of purchase and installation for such technology, government could consider a level of subsidy for regional community to implement use of these technologies.

Q11. How can Government better support the rapid rollout of and investment in new telecommunications solutions in regional areas?

Issues:
- NBNCo and telcos are revenue driven and the commercial case for high ROI for significant investment in regional and remote areas will be difficult to achieve given population and distance. However, there is a recognised ROI regarding supporting regional economy development, diversification, and community wellbeing.

Solution Recommendation:
Continue with the grants programs to improve service levels but invest in the future technologies which are relevant and be an early adopter of these modern technologies in regional and rural areas. e.g., satellite tech.

- Government should drive for the requirement for more shared infrastructure outcomes amongst telcos and developers of infrastructure to reduce cost development. For example, ensuring that telecommunication infrastructure needs are considered at the same time as new water, energy, gas, transport infrastructure is developed, implemented and constructed. Too often we see telecommunications infrastructure seeking to be constructed after construction of the other infrastructure.

- The existing on ground model will always require investment and is endless.

Q12. How can different levels of Government, the telecommunications industry and regional community's better co-ordinate their efforts to improve telecommunications in regional Australia?

Solution Recommendation:
- Local government in cooperation with business continues to work with telco's and NBNCo to achieve improvements utilising grants.

- Support from federal government to drive the creation of respective regional telecommunication taskforce working groups to develop telecommunications strategies and plans for the region would support priority driven process and solutions at the local scale.

- More structure is required around each role, the need for coordinated planning, co-investment, and updating of the communication standards to allow for fibre services and mobile coverage to be stipulated (refer question 2 answer) and how emerging low orbit satellite and wireless services are

measured against fibre services (i.e., 100mb vs 1GB internet service), what is the minimum standard set for a 1st world consumer and the min mobile coverage.

Q13. What changes to Government investment programs are required to ensure they continue to be effective in delivering improved telecommunications?

Solution Recommendation:
- Current cost-effective fixed line and fibre to premise solutions that meet metro and larger regional centre needs are unlikely to offer long term best fit solutions for rural and remote regions.

- The rapid growth in satellite-based constellation solutions for telecommunications can be a better fit for those areas of lower human habitation and thus low data use by total volume. Improved understanding and assessment of satellite connection and use is required, and it should not be seen as competition to the fixed line service, but a different product matched to different customers.

- A fundamental change is required regarding the determination of investment programs being principally aligned to ROI focus for a telco's business. In contrast government investment toward upgraded or new construction of telecommunication infrastructure should be based on analysis of regional productivity, output growth and community safety and well-being.

- Government could provide a higher level of support conditional on a community being able to justify positive broader community economic and wellbeing outcomes where a community has poor access to telecommunications and there is limited ROI for the telco.

Q14. How can regional consumers be better supported to identify, choose, and use the best connectivity options for their circumstances, as well as to understand and use their consumer rights?

Solution Recommendation:
- The development by government of direct programs to support localised digital connectivity literacy improvement projects and actions as part of a regional telecommunications strategy.

- Mirror similar initiatives across other government supported sectors where regional program delivery is supported within a common national framework that supports solutions development to complex problems.

- Combine national program design and delivery coupled with local strategy and delivery activity leading to targeted solutions that can be openly shared across the country with other regions via the national framework and program E.g., Local Jobs Program

Q15. To what extent is public information on connectivity options, including predictive coverage data and speeds, sufficient to help regional customers make informed decisions? What other information is needed?

Issues:
- Public Information regarding coverage, data and speeds is provided but is not consolidated in an easy-to-understand format for most community members. Digital and connectivity literacy in regions is low. These low digital literacy levels are exacerbated by many communications and information channels which are broadly driven by the telco and aligned to their specific product and service offering. Independent, unbiased information from a trusted, non-commercial source is required.

- Coverage maps provided by NBN Co, and telcos are often not granular enough or can be misleading as in the main the maps overstate connectivity options available. For example, claiming to have mobile coverage in some areas might be linked to one bar of coverage. This data, from a users' perspective, is of little benefit. Coverage maps and information should be aligned to coverage with close to full signal strength on average in relation to mobile coverage. Regarding NBN Co the public map version available is lacking in full information, yet the mapping that is available to NBNCo staff

is much more detailed and accurate. Independent, unbiased information from a trusted, non-commercial source is required.

Solution Recommendation:
- A consistent level of detailed telecommunications coverage mapping should be provided to all from an independent, unbiased, non-commercial source.
- Coverage maps should clearly illustrate the strength of connectivity, along with remediation options for customers that are in a poor coverage zone. This provides customers with greater knowledge and transparency.
- The ability to communicate digital and connectivity knowledge and information to locals from an independent, unbiased, non-commercial source is very much required. This could be a key action for the regional telecommunication taskforce.

Q16. What other matters should the Committee consider in its review and why are they important?
- Nothing further to add.

The Greater Whitsunday Regional Digital Connectivity Forum Stakeholders wish to thank the 2021 Regional Telecommunications Review Committee for the invitation to make a submission. Should the committee or the department require any further information please feel free to contact the Forum via direct contact with Mr Robert Cocco of Regional Development Australia – Greater Whitsundays via ▇▇▇▇▇▇▇▇▇▇