# BROADBAND FOR THE BUSH ALLIANCE

# SUBMISSION TO THE DEPARTMENT OF COMMUNICATIONS

# MOBILE COVERAGE PROGRAMME DISCUSSION PAPER

February 2014

Broadband for the Bush Alliance is:

Australian Communications Consumers Action Network, Central Desert Shire Council, Central Land Council, Centre for Appropriate Technology, Centre for Remote Health, Desert Knowledge Australia, Frontier Services, Indigenous Remote Communications Association, Katherine Town Council, Ninti One, Regional Development Australia Northern Territory, Remote Area Planning and Development Board, Swinburne University of Technology

Facilitated by: DESERT KNOWLEDGE AUSTRALIA

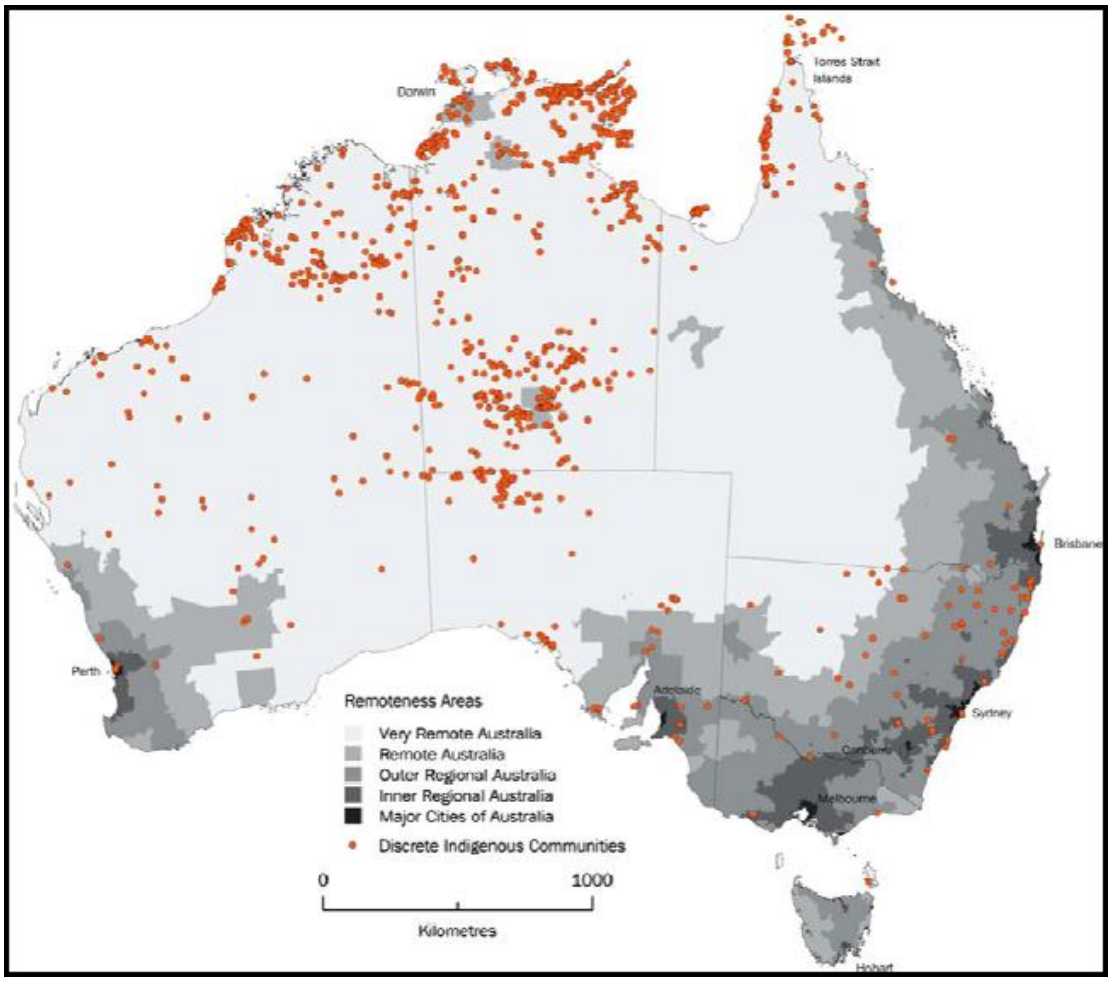
## About the Alliance

The Broadband for the Bush Alliance (B4BA) is a group of organisations that are committed to the digital inclusion of remote and rural Australia. The Alliance brings together a range of stakeholders with expertise in communications, remote service delivery, and community engagement. It has published a number of policy documents[1], including in particular its policy *Extending remote and rural cellular mobile.*

## Remote Australia

The Alliance focus is on the sparsely settled parts of Australia that correspond approximately to the remote and very remote areas shown in Figure 1. We therefore use 'remote' in our submission to refer to both of these situations.

FIGURE 1 – Remoteness areas




Note: Remoteness areas refer to Australian Standard Geographical Classification Remoteness Structure 2001. Source Australian Bureau of Statistics (2006)

[1] http://broadbandforthebush.com.au/documents/

## Market Failure

The struggle by rural and remote Australian communities to improve telecommunications infrastructure is well documented[2] and the B4BA paper, "*Extending remote and rural cellular mobile*", released in May 2013 suggests a number of strategies to improve mobile services in remote Australia. Without greater government encouragement of infrastructure investment in rural and remote communities the remote regions can never realise better mobile service.

Market failure is a stark reality for those working and living in rural and remote areas. Australian telecommunications companies consistently do not invest in remote regions because there is no perceived return on investment. Failure of commercial businesses to invest in infrastructure is attributed to low population bases, long distances between communities and poor underpinning infrastructure (backhaul). Government strategic investment can help.

Telecommunications infrastructure providers point to the need for government to make a capital contribution to make projects viable. The further the remote community is from regional towns the more expensive a single telecommunications project becomes.

Market failure means governments must commit substantial funds in a strategic way if rural and remote communities are to gain a degree of equivalency with metropolitan users. Special consideration for remote Australia is not new. Australian governments have historically adopted a range of measures to provide support to 'the Bush', including through legislation (the Universal Service regime) and targeted funding (such as the extended zones scheme). Various other Commonwealth and State funded programs such as Networking the Nation and the recent WA Government Royalties for Regions Program have incorporated a strong rural and remote focus. B4BA draws to the Department's attention that market-based policy and procurement mechanisms do not work in rural and remote regions.

Telstra remains the dominant supplier of a broad range of telecommunications services in remote Australia and is the monopoly supplier of last resort for the domestic transmission carriage service. The current ACCC investigation into price will hopefully result in reductions in backhaul pricing but this alone is likely to be insufficient. However, combined with targeted Government investment in satellite backhaul for example, such a move could encourage MNOs to expand their remote mobile presence.

B4BA welcomes the Government's $100M commitment to improve mobile coverage in regional Australia, but is concerned that little of that funding will reach remote Australia if the current criteria of 'relative increased population covered' is not reviewed in recognition of the importance of smaller remote populations.

[2] For example: The Ngaanyatjarra Lands Telecommunications project: A Quest for Broadband in the Western Desert and Regional Telecommunications Reviews

The Discussion Paper contains no mechanism to specifically address the special characteristics of uncontested remote area mobile coverage provision, which include:

- Very low population densities
- High backhaul costs (proportional to distance)
- High install and support costs
- Difficulty in resourcing and coordinating the preparation of Expressions of Interest, and in leveraging co-contributions.
  Remote consumers are widely dispersed, may be disadvantaged, and are often poorly resourced. Their institutional supporters are typically other levels and agencies of Government that have no explicit mission to include or facilitate mobile services in their service portfolios, and would often expect the Department of Communications to assume this role

- No benefit is gained by mandating open MNO access in uncontested areas, while open access increases the costs

Therefore, there is a need for a distinction between the proposed Mobile Coverage Program delivery approach for areas covered by the more populous regions and the approach for uncontested regional and remote areas.

## Remote Area Drivers

*Health and Education*

B4BA recognises that health and education are key mobile coverage drivers for remote Australia. In Remote Indigenous Communities, mobiles are used to communicate medical appointments, and access school systems because setting up a mobile customer account is much less cumbersome than setting up a fixed line account).

## Mobile Coverage Programme: Design Impediments

Many requests for funding will fail. There are simply not enough available funds to meet the estimated 800plus mobile black spot locations across Australia. The competitive process for a share of the $100M raises great concern.

**Our concern is that the programme design has not recognised the competitive disadvantage outback Australia faces to successfully attract investment dollars from Mobile Network Operators (MNOs) and to contribute and raise sufficient co-contributions because of its low and dispersed populations, in order to be eligible for funding.**

# Programme Design

## General

Member feedback suggests that a (large cell) mobile base station in remote Australia will cost up to $1M, provided the required backhaul is available.

## Design Issues

Rural and remote projects inevitably require higher funding levels than outer metropolitan and many regional locations, because of cost factors attributable to greater backhaul distances and reduced access to / higher costs of installation and maintenance services. However the programme design fails to recognise this important rural and remote factor. The programme average funding is $334,000 per project. Market failure is the reason why telecommunications companies have historically failed to invest in rural and remote infrastructure. Rural and remote towns have a typical profile of low populations, poor backhaul infrastructure and limited low (government, business and community) capacity to co-invest in better communications services. They face real challenges to make significant co-contributions. This combined with the stated factors results in significant difficulty to develop a commercial business case for mobile projects in their location.

However these towns and the connecting major transport corridors need mobile coverage and this programme offers the opportunity to construct mobile towers in priority black spot locations.

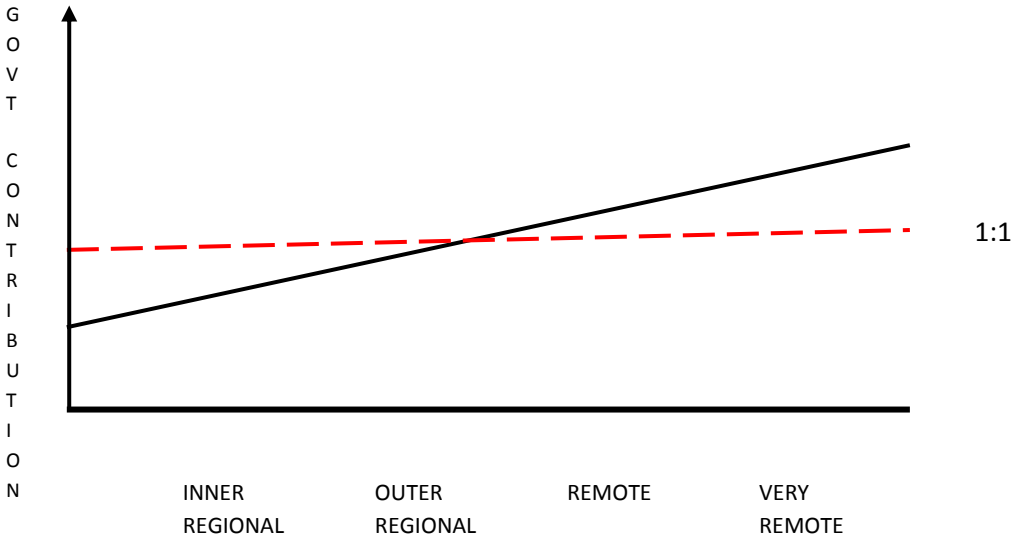
**Our concern is that the Programme will, by its design, necessarily prioritise projects with lower total project costs and hence lower contributions by MNOs and governments, and greater population density.** The expected 250-300 new or upgraded mobile base stations across Australia to be funded by the Programme will comprise these lower cost /high population projects.

### Alternative 1 – Sliding scale of funding support

The Broadband for the Bush Alliance strongly recommends the programme design incorporate a sliding scale of Commonwealth Government contribution that recognises rural and remote regions require greater funding assistance. This sliding scale would be based around the amount of government contribution to each build using an algorithm to equate higher government contribution with increasing remoteness**.**

**REMOTENESS INDEX: A B4BA suggested mechanism**

**for overcoming market failure**




Areas of higher population density or higher co-contribution have greater probability of gaining funding. MNOs are more likely to invest in these locations because government funding will close the investment gap to make these projects a commercial proposition. Yet some coastal and regional black spot locations will, as populations grow, automatically attract new towers as MNOs seek to maintain or gain competitive positions. It's only a matter of time before MNOs can develop positive business cases for these locations. In outback regions the population is static or declining. Therefore over time it's unlikely a sustainable business case in support of infrastructure investment will reach a viable proposition for MNOs in outback locations, unless the government provides substantial funds.

## Alternative 2 – Direct funding for remote Australia

On the current Programme design and indications, Government and MNO would each contribute an average of around $330K per site for 300 sites, with a likely smaller co-contribution from other interested parties.

B4BA believes that a rebalanced Mobile Coverage Programme design with a target 40% rural and remote small community funding objective (in both components of the program) would recognise the principle that rural and remote regions require greater funding assistance.

The rebalanced programme could incorporate a mandatory requirement that MNOs must nominate at least 40 small rural and remote communities on their mobile blackspot priorities. Each such project would be assured of $750,000 Government funding from the programme, double the average under the existing design - recognising its higher costs, and a lesser MNO contribution - recognising its reduced commercial viability. It would be expected that MNOs would work with local governments on co-contributions and other commitments.

Factors the programme could include as qualifiers for the 40 small rural and remote communities include:

(a) The town has a local government administration centre; or
(b) The town has a school, police station or library; or
(c) A minimum defined distance to the next mobile coverage; or
(d) The economic factors that would benefit from mobile coverage – farming activity, safety issues, natural disaster history, tourism density,
(e) Dependency on government e-services.
(f) Economic disadvantage

## Other B4BA comments and recommendations

- Sharing of NBNCo fixed wireless infrastructure will have little or no impact on cost reduction for the mobile business case in remote areas, since the previously publicised plans for that infrastructure indicate that very few if any of these will be located in remote areas not already served by existing mobile coverage.

  We recommend that investigation of sharing options should be extended to include other NBNCo infrastructure technologies that are more relevant to remote areas, in particular NBNCo long term satellite capacity. Please refer also to B4BA policy paper *Extending remote and rural cellular mobile.*

  (Discussion Paper Questions 18-22)

- We recommend that the Government <u>does not</u> mandate particular technologies, standards, ownership models, or capacities for the Programme in remote areas, because there is a risk that this may unpredictably increase costs, constrain innovation, or reduce flexibility or sustainability of solutions over the 10 year contract period without commensurate benefits. Features which fall into this category include:
  - 3G / 4G base station technologies (Question 1)
  - Large / small cell mobile technologies
  - Backhaul technologies (fibre / satellite / high or low capacity microwave)
  - Infrastructure leased / owned by the MNO
  - Signal strength measurement conventions (RSSI / RSCP) (Question 2)
  - Satellite frequency band technologies (Ku / Ka)

  With regard to options of this type that an MNO may propose, B4BA notes that the affected communities need to be consulted to ensure that the solution meets their requirements.

  Further to this, bidders should be encouraged to consider and propose the use of other underutilised existing infrastructure that they may not currently have access to, such as fibre, and HCRC or other tower infrastructure.

- Reducing mobile cell implementation costs
  B4BA believes that satellite backhaul in combination with small cell mobile base station technologies are likely to be 'game changing' in the near term, by providing substantial capital and implementation cost reductions in providing mobile coverage to small remote populations. We strongly support their adoption. There is currently an opportunity for seed funding and trialling these through the Government's

Programme, following technical trials and/or their operational use overseas by the key satellite service providers to NBNCo (IPStar and Optus). Features offered by the technology include local switching, caching and spoofing to reduce backhaul data transmission capacity requirements and reduce the impact of latency on voice and data transmission quality.

We therefore recommend that demonstration implementations of stand-alone (i.e. not linked to a proposed macro cell implementation – Discussion Paper p11) small cell base station technologies be funded under the Program, to test their suitability for remote area application in Australia.

- We recommend that 'population covered' rather than 'premises covered' should be used in evaluating coverage proposals, since premises covered works against premises with larger than average populations per premises, such as remote Indigenous households and some pastoral properties (Discussion Paper p11)

- We recommend that 'visitor nights' statistics, rather than 'number of sites/rooms/cabins offered' be used as more representative of actual tourism volumes (Discussion Paper p12)

## Concluding comments

The Broadband for the Bush Alliance notes that no significant Commonwealth funding has been allocated to extending mobile coverage for the past six years. We welcome the Government's Mobile Coverage Program initiative, and would also welcome the opportunity to further explore this submission with the Government to ensure that the program provides much needed extended coverage to rural and remote Australia.

For further information, please contact:

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