



RAPAD SUBMISSION TO THE PRODUCTIVITY COMMISSION'S TELECOMMUNICATIONS UNIVERSAL SERVICE OBLIGATIONS INQUIRY

Introduction

The Remote Area Planning and Development (RAPAD) board's submission to the Productivity Commissions Telecommunications Universal Service Obligation (USO) Issues Paper identifies the issues relevant from a rural and remote perspective. Other Australian regions may have similar concerns. RAPAD, the economic development organisation representing seven local government areas in Central West Queensland. RAPAD is concerned that governments have failed to give adequate priority to digital infrastructure necessary to deliver communication (voice, mobile and data) in rural and remote regions. Over several years RAPAD has documented these concerns and submitted detailed responses to the government.

This response will not reply to each issue paper question, instead it will attempt to give the Productivity Commission a balanced view of the needs of remote areas for digital communication services and calls for a new definition of a Universal Service Obligation, a charter that reflects the digital telecommunications requirements of a modern world. Digital communication is the cornerstone of today's society and all predictions suggest unrestricted growth in demand. A Universal Service charter must address connectivity. Connectivity means data communication, mobile communication and voice communication elements. A definition of availability, affordability, service standard, service guarantee of these services must be defined and included as part of the charter. Equally these definitions cannot be static. Data usage and connect speeds are constantly improving and any definition for a universal service charter must have provision to change over time.

Context

The Issues Paper appears to be biased towards an economic perspective and seek a minimalist approach to a Universal Service Obligation. The paper's questions appear to accept the structure of the industry and digital infrastructure programs (existing and proposed) as a given whereas when considering a review of the Universal Service Obligation the existing benchmarks must be questions as appropriate or not. Digital communication is such a fundamental service for Australia's economic health and societal wellbeing. The past three Regional Telecommunication Review reports (Glasson 2008, Sinclair 2011-12 and Shiff 2015)¹ have

¹ RTIRC 2015 <http://www.rtirc.gov.au/wp-content/uploads/sites/2/2015/10/RTIRC-Independent-Committee-Review-2015-FINAL-Low-res-version-for-website.pdf> and RTIRC 2012

called for reform of the Universal Service Obligation and/or better basic service. In essence the call for expansion beyond fixed voice services is a consistent factor. Successive governments have ignored this recommendation.

The Commission states the primary policy question is, “... *to what extent, in the evolving Australian telecommunications market, Government policies may be required to support universal access to a minimum level of retail telecommunications services*”. Fundamental to discussing a Universal Service Obligation is the nature, scope and objectives of a universal service. It is unconscionable in the twenty first century to consider the USO in terms of its original 1990s framework, a framework designed to address the public’s demand, at that time, for a basic voice service. Technological advancement has seen enormous changes in terms of mobility and data connectivity far in advance of the basic fixed voice service. Society and business fundamentals have also changed to such an extent that digital communications through online, mobility communications, video and plain voice communications are integrated into the essence of modern living. New thinking on a Universal Service charter is due.

The Commission’s Issues Paper (June 2016) seeks to frame the USO in the context of market, technological and policy developments. It describes, in short, how government programs, government policies, the market and new service introduction might cause the USO to be less relevant and effective. Nothing can be further from reality. To cast the USO in such a narrow context ignores the economic significance communications in a digital age. From a societal perspective, peoples’ adoption and thirst for services is accelerating year on year and markets have failed **rural and remote** people in terms of building digital infrastructure that underpin digital services.

This submission ignores the needs of metropolitan and regional consumers. Others can better represent their aspirations.

The issues paper references a *minimum level of retail telecommunications services* and the term *minimum* cannot refer solely to voice communication. *Minimum* must be redefined to be inclusive of mobile and data connectivity if it’s to be relevant (meet societal requirements) now and into the future. Should the Commission take a minimalist approach to formulating a new Universal Service Obligation it will fail those with insufficient market power to secure appropriate digital telecommunication service.

Historically market failure in rural and remote regions (retail markets have failed to deliver appropriate services) has seen numerous Government intervention programs (Networking the Nation, Coordinated Communications Infrastructure Fund, Mobile Black Spot, the \$250M Regional Backbone, to name a few) targeted to address the digital gaps. A national strategy to deliver a national digital network that can grow and adopt to new technology and service is required not the patchwork collection of policies the past has delivered.

Rural and Remote – a special case Rural and Remote telecommunications overview

RAPAD argues that rural and remote Australia with its enormous land mass and sparse population is a special case requiring government intervention to construct the underlining infrastructure supporting digital engagement in all its forms. All carriers or service providers recognise the unique challenges pertinent to rural and remote Australia and that commercial returns are not possible without government funding. Successive

governments have failed to develop policies and programs specifically addressing these factors and have instead relied on generic policy and programs.

RAPAD supports the Broadband for the Bush Alliance Forum V², delegate call for formulation of a *Remote Telecommunications Strategy*, that identifies the unique characteristics faced by rural and remote people. Without the strategy to drive policy and inform those not attuned to rural and remote realities the result is a one-size-fit -all infrastructure and digital engagement framework the digital divide for the bush will expand.

Now is the time, through the Productivity Commission enquiry to right past the wrongs of the past. From an economic prospective rural and remote Australia contributes significantly to the national economy through agricultural, farming and resource production. Given no network providers can make a business case to deploy the required digital infrastructure its time government returned some of the rural and remote tax revenues in the form of a rural and remote universal service obligation. A new Universal Service charter based on connectivity is required to bring better equality to rural and remote Australia.

Barcoo and Diamantina Shires³ – a case example

The Commission asks whether the retail market for relevant services will deliver *reasonable outcomes for consumers in the absence of government intervention*. For remote and rural regions, the answer is a resounding NO. For example, the Barcoo⁴ and Diamantina⁵ Shires recognised 10 years ago that telecommunications service was inadequate if the shires were to grow economically and the sustainability of their town secured. The Australian Government national broadband policy was seen as deficient because the five shire townships will be broadband connected via a satellite network and there was no plan to upgrade the aging terrestrial radio systems. The Barcoo and Diamantina Shires have no optic fibre backbone infrastructure into their region. Instead Shire towns are connected to the national Telstra telecommunications grid via radio systems – digital radio system (DRS) or high capacity radio concentrator system (HRCRS) for the delivery of basic voice services. The shires had suffered serve infrastructure failures and poor service quality⁶.

This year as a result of funding from the three levels of government (Federal, State and Local) over 550km of optic fibre will be laid connecting the five shire towns to the national grid. More importantly a wholesale shift in digital services will occur. The towns will finally be able to connect to 4G mobile services, ADSL 2+ broadband services, high speed IP enterprise services and have quality and (higher) reliability voice services⁷. Each shire committed over \$2M to the project, a real stretch for remote local government.

The Commission states it will consider options for government to deliver universal services and the costs and benefits of these interventions from a community-wide perspective. These two shires are classic examples of where reasonable market outcomes were unlikely (without government intervention) and should be analysed

² <http://broadbandforthebush.com.au/broadband-for-the-bush-forum-v-2016/>

³ Barcoo and Diamantina Shires are geographically located in the far western region of Queensland, abutting the South Australian and Northern Territory borders. The population of the region is small – Diamantina Shire has a population of 328 and Barcoo Shire has a population of 343. The region is classified as remote.

⁴ The Barcoo Shire is serviced by three towns; the local government administration town Jundah, Windorah gateway to iconic Birdsville and Stonehenge located near the Department of Defence 'Over the horizon radar installation'. The local government area of Barcoo Shire has a total area of 61,952.5 km² (3.6% of Queensland). The Shire's main industry is beef production and to a lesser extent wool production, opal mining, earthmoving works and tourism and hospitality.

⁵ The Diamantina Shire is serviced by two towns; the iconic town Birdsville and the administrative town Bedourie. The local government area of Diamantina Shire has a total area of 94,870.6 km² (5.5% of Queensland) and lies within the region known as the Channel Country in far southwestern Queensland Australia. The shire is situated against the South Australian border, is classified remote and is the Queensland gateway to the Simpson Desert. The Shire is predominantly a beef producing area containing some of the best containment free natural fattening country in Australia. Tourism is also a key industry.

⁶ <http://www.diamantina.qld.gov.au/documents/800087/4073594/079-Media%20Release-180%20Residents%20left%20with%20No%20Phones...again>

⁷ <http://statements.qld.gov.au/Statement/2016/1/22/western-shires-to-fire-up-new-highspeed-internet>

by the Commission to better understand remote environments and the passion remote residents have for digital services to a metropolitan equivalency.

The National Broadband Network

The issue paper makes reference to the national broadband network (NBN) and the 7% of Australian premises outside the FTTN/FTTP/FTTdP will have their NBN delivered via satellite or wireless. It also discusses optional migration off the copper network for remote residents and claims likely increase in competition through NBN fixed wireless and satellite as well as mobile networks. The likelihood of competition on copper in remote regions (served only by satellite and wireless) is very low. An analysis of the choice of retail providers shows just how poorly competition rates in remote regions. The NBN is unlikely to alter the competition status on fixed services as retailers consistently state the business case to offer services in low population areas is non-commercial. As mentioned above towns and residents with voice connection via HCRC⁸ are substantially competitively disadvantaged simply because the capacity (backhaul) is well below today's required levels and the infrastructure is owned by a single network operator, Telstra. Retailers have repeatedly expressed the opinion that to share/co-locate their infrastructure with Telstra is prohibitively expensive.

Recently politicians and commenters have flagged that VoIP apps and services⁹ (Skype, FaceTime, WhatsApp etc) offer new voice competition. For remote consumers on the nbn SkyMuster™ VoIP calling as a standard voice option is **not an option**. The ICPA (Qld) Inc. Position Paper, "The retention and improvement of the Telecommunications USO" gives a succinct explanation. In part it argues that *"International Telecommunications Union Recommendation G.114 specifies a maximum round-trip latency threshold of 300ms for acceptable voice services. As shown in Section 4.1.1 (of their paper), the round-trip latency for satellite signals is between 500 and 600ms— twice the allowable threshold. With this level of latency, the quality of service leads to a poor user experience" and "Because of satellite susceptibility to these issues, the use of satellite as a replacement for traditional landline service (or terrestrial wireless) for voice communications is not desirable, especially when the service involves 911 (000) and other critical services."*

The ACCAN paper, *The Connected Consumer The future of consumer focused communication services*¹⁰, called for a minimum standard applied at network level in terms speed (download and upload), committed information rate, latency, jitter, packet loss and reliability should be established and that further consideration needs to be given as to what standard of data services is required by consumers." RAPAD supports the need for minimum data standards to be defined. The advent of data services has left many consumers confused over the meaning of various access and service description in the data world. Even those comfortable with data products are subjected by ISPs to a range of complex requirements when challenging the ISP over service performance.

RAPAD urges the Commission **not** to consider VoIP type technology/services as an option for a voice Universal Service, if the access technology is satellite technology.

Constant improvement in technology (e.g. apps and infrastructure) means the public expects more than fixed voice communication. The Commission focus on the NBN rollout as a factor influencing (future) a USO standard telephone services indicates a failure to understand the shift in the public's demand for a set of basic digital services. Reliance on a basic fixed voice service as a USO is outdated thinking. Mobile services have been embraced by Australians and the 7,000 plus registration of Mobile Black Spot (Round 1) locations demonstrates the public's concern over coverage issues. The NBN is not the solution to address mobiles as a Universal Service charter as it was not designed from a policy perspective or from a design platform, to deliver mobile services.

⁸ High Capacity Radio Systems (HCRC)

⁹ For a list from Market Clarity see <http://marketclarity.com.au/voip/>

¹⁰ <http://accan.org.au/our-work/policy/1245-the-future-of-consumer-focused-communication-services>

The RAPAD region is not on the nbnco 3 year rollout plan and may not be connected to the NBN until 2021. Where does that leave the region should a new USO (based on the existing concept) leave residents?

The government policy position that the NBN return a positive is likely to influence decisions to leverage the NBN for a Universal service structure. The government would need to restructure its expected returns to exempt Universal services carried over the NBN.

Emerging infrastructure.

The Commission references Facebook and Google investment in telecommunications infrastructure such as, high-altitude drones and helium balloons to provide aerial wireless internet access in other remote parts of the world. These activities are acknowledged but are being investigated in third world environments where terrestrial infrastructure (c.f. that deployed in Australia) is virtually non-existent. And there is no evidence of interest by these organisations in the Australian market. RAPAD is aware of new developments being promoted in Australia, such as the Aerostats All Australia (AAA) project essentially a floating aerial, the concept is to tether aerostats (lighter-than-air balloons) permanently (anchored) to an existing mobile base station where fibre-optic backhaul exists.

Mobiles

Should mobile technology be considered as a delivery platform for a voice Universal Service certain consumer safeguards need to be in place. The current mobile market is considered competitive. Consumers can purchase services from Mobile Network Operators (MNO) or through their reseller channels. For rural and remote regions competition levels equivalent to metropolitan areas remains elusive because most areas are served by only one supplier. The MNO national pricing structures is beneficial to rural and remote consumers.

MNOs quote mobile coverage by population which is meaningless in rural and remote areas especially when transport corridors (roads) are important coverage criteria.

Australia's land mass is its rural and remote regions. It is these regions that need the most attention in a new Universal Obligation that includes mobile services. The Regional Telecommunications Review states, "*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*"¹¹. It expanded by stating, "*In uneconomic areas where there are demonstrable benefits that may also require funding support for both capital and operational expenditure, this could be undertaken through a consumer safeguard fund (discussed further in Chapter 4) which could have the flexibility to offer capital or demand side subsidies.*"¹²

Inclusion on a mobile element in a new Universal Service must be accompanied by greater infrastructure investment in rural and remote digital infrastructure. As referenced, government intervention is required as market failure means MNOs are not prepared to expand their networks without government assistance. Recognition by governments that digital infrastructure is essential for sustainability, economic development and societal of rural and remote communities has resulted in millions of dollars¹³ being committed to programs such as the Mobile Blackspot program. (NSW (\$24 million), Victoria (\$21 million), Queensland (\$10 million), Western Australia (\$32 million) and Tasmania (\$0.35 million) and \$1.7 million has been provided by local governments, businesses and community organisations).

¹¹ Regional Telecommunications Review 2015 p 36.

¹² Ibid p 37.

¹³ <http://chiefminister.nt.gov.au/news/better-telecommunication-services-remote-nt-communities>.
<https://www.communications.gov.au/what-we-do/phone/mobile-services-and-coverage/mobile-black-spot-programme>.

Consumers are now offered all-you-can-use (conditions apply) mobile plans at a fixed monthly price. As a voice service this suits many consumers perhaps explains why many are deserting fixed phone lines. Should competition continue to drive fixed price mobile packages the option of mobiles as a voice Universal Service should be explored.

Continued technology developments (3G, 4G and 5G) suggest mobiles must be included as a delivery platform for a new Universal Service charter that includes voice, data and mobility. The current shift to IP mobile voice also needs consideration.

Without mobile network roaming choice by consumers in rural and remote locations will be limited, if mobility were included in a Universal Service. Telstra, the dominant mobile network, leverages its coverage to secure customers and in rural and remote regions consumers who often have no competitive option or competitor coverage is patchy hence unreliable (especially on transport corridors). The Commission should seek information on establishing mobile network roaming to allow greater consumer flexibility and coverage.

Other Issues - Paper Questions

How effective is the current USO in meeting its objective of being 'reasonably accessible' to all people in Australia on an 'equitable basis', wherever they reside or carry on business?

Government policy to ensure reasonable accessibility has served Australia well even though we have witnessed consumers being offered substitute services that restrict competition (e.g. connection of a mobile service with no choice of long distance call provider as a USO service).

As stated throughout this document the concept of a Universal Service Obligation based on a fixed voice service is outdated and inconsistent with the digital connectivity service sought by most Australian. Therefore, the current USO has a minor effect on competition (mobile services and VoIP apps are the competitive option for most) and digital communication innovation has moved to a data platform. Over The Top communication¹⁴ mobile services and broadband services are now driving telecommunications services. Broadband access is the key requirement for these services and speed of access and data limits are the major consumer issues. The Commission should seek to address how all Australia can have equitable access (quality, reach and affordability) to these services under a new Universal Service charter.

What is the justification for funding two sets of infrastructure (the NBN and the current USO standard telephone service) in the highest cost areas?

If there were two sets of infrastructure that delivered services with no perceivable difference in terms of availability, affordability, service standard and guarantee there would be no justification in funding two sets of infrastructure. However, for rural and remote Australians, the infrastructure platforms are significantly different (predominately satellite and wireless) which causes differing voice options (Note: The nbn satellite is not designed for VoIP services). Again Australian today and in the future will not be seeking a Universal Service based on universally available voice services. Modern society has moved on from voice as a basic Government guaranteed option.

¹⁴ **Over-The-Top content (OTT)** is the delivery of audio, video, and other media over the [Internet](#) without the involvement of a [multiple-system operator](#) in the control or distribution of the content. See https://en.wikipedia.org/wiki/Over-the-top_content.

What should be the objectives of any new universal services policy? Are objectives such as universal availability, affordability and accessibility appropriate?

It is unconscionable in the twenty first century for the government to consider the USO in terms of its original 1990s framework, a framework designed to address the public's demand, at that time, for a basic voice service. The public demand telecommunications services in terms of mobility and data connectivity, not basic fixed voice service. Society and business fundamentals to demand digital communications through online, mobility communications, video and plain voice communications are integrated into the essence of modern living. New thinking on a Universal Service charter is due. A new charter should address availability, affordability and accessibility as well a digital literacy, a requirement not normally necessary for voice service.

What policy options should be considered in addressing universal services objectives? Is there a single policy or combination of policies that should be considered? What are their benefits and costs?

Unfortunately, successive governments have considered and developed universal telecommunications services in isolation of the broader policy objectives. A good recent example of this is the policy of driving the growth of northern Australia. The Office of Northern Australia (ONA) is a conduit between all levels of government, industry and the people of northern Australia and provides advice and initiatives to drive economic growth and investment¹⁵. Yet the government has not prioritised digital communication as a vital element is development, market development or resource management. The benefits of a connected northern Australia is obvious to all who are resident in the region.

Given emerging market, technological and policy developments, what areas of market failure should be targeted by any new universal services policy?

A new reformed universal services policy (including mobile and data) should address the market failure of inadequate digital infrastructure in rural and remote regions. If terrestrial digital backhaul infrastructure exists (appropriate bandwidth and competitive access regime) then it's likely service providers will enter the market. The introduction of new technologies (small cell mobile, WiFi mobile calling, WiFi internet access, LoR¹⁶ and others) makes market entry more likely.

Should telecommunications users in regional and remote locations reasonably expect exactly the same service quality and price (including usage) as those living in cities irrespective of the cost of provision?

The digital divide will expand is rural and remote residents do not have access to comparable digital services. Digital communication is key to sustainability, economic development and societal wellbeing. The service quality must be equivalent however some metropolitan differentiation in service types maybe acceptable. That differentiation should be at the retail service competitive level or a limited set of higher level services (i.e. Telstra's GWIP in communities without local government facilities) or high cost mobile platforms where lower priced technology options exist.

Should current payphone USO services continue? If not, what alternatives to these services should be considered?

The significant expansion in the availability, use and quality of mobile phone services is acknowledged but in rural and remote areas coverage can be sparse. And the further remote your residence or travels the lesser the coverage experienced. , Whilst the use of payphones continues to decline, with only around 6 per cent of adult Australians having used a payphone in the six months to May 2015 and the number of Telstra payphones

¹⁵ <http://northernaustralia.gov.au/>

¹⁶ <https://en.wikipedia.org/wiki/LPWAN> and <https://www.lora-alliance.org/>

has declined by 46 per cent from over 32 000 in 2003-04 to around 17 500 in 2014-15 there is still a need, especially in rural and remote area for the public to be able to access a public facility for voice connection or a free or pay-as-you-go option.

RAPAD recommends continuation of a public facility for voice connection or a free or pay-as-you-go option. The free option could be built on free WiFi connection (suitable for those with smart phones and a suitable app) but for those without a mobile or suitable mobile handset continuation of the current public payphone service appears to be the best option.

Key Points

In summary the key issues RAPAD believes represent rural and remote stakeholder concerns are:

- A **new Universal Service** inclusive of voice, data and mobile. Such a service to be regularly redefined in terms of speed and data allowances to reflect the average Australia availability/use.
- Markets have failed **rural and remote** people in terms of building digital infrastructure that underpin digital services because of low population and huge distances. New government thinking is required.
- RAPAD calls for the formulation of a ***Remote Telecommunications Strategy***, a strategy to drive policy and inform those not attuned to rural and remote realities and cease the (current philosophy) a one-size-fit -all infrastructure and digital engagement framework. Else the digital divide for the bush will expand.
- That **VoIP** type technology/services is not an option for a voice Universal Service, if the access technology is satellite technology

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