



# The future of the Universal Service Obligation (USO)

An Occasional Paper  
John de Ridder  
De Ridder Consulting Pty Ltd

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Australian Communications  
Consumer Action Network

# The future of the Universal Service Obligation (USO)

John de Ridder

November, 2015



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“The future of the Universal Service Obligation (USO)”

Authored by John de Ridder

Published in 2015

The operation of the Australian Communications Consumer Action Network is made possible by funding provided by the Commonwealth of Australia under section 593 of the *Telecommunications Act 1997*. This funding is recovered from charges on telecommunications carriers.

De Ridder Consulting Pty Ltd

Website: [www.deridder.com.au](http://www.deridder.com.au)

Email: [deridder@bigpond.com](mailto:deridder@bigpond.com)

Telephone: +61 409 804 278

Australian Communications Consumer Action Network

Website: [www.accan.org.au](http://www.accan.org.au)

Email: [research@accan.org.au](mailto:research@accan.org.au)

Telephone: 02 9288 4000

TTY: 02 9281 5322

ISBN: 978-1-921974-35-9

Cover: Richard Van Der Male. Image: Shutterstock, 2015



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This work can be cited as: “De Ridder, John. 2015, *The future of the Universal Service Obligation (USO)*”, Australian Communications Consumer Action Network, Sydney.

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# 1 Summary

It seems clear that *“the USO is a twentieth century legislative instrument operating in a very different twenty-first century digital environment - an environment in which access to a fixed line home phone cannot provide the connectivity necessary for full economic, social and community participation. Access to an affordable fixed line telephone service no longer provides a level of connectivity considered essential”*<sup>1</sup>.

Section 2, *Broken concepts*, explains why the current USO arrangements have been overtaken by many changes that force a review of the future of the USO. It is clear that the USO should not be just about voice, as mobiles and data services have significant roles to play in the future.

Section 3, *What are we solving for?*, revisits the objectives of universal policy and possible extensions. It concludes that a future USO would need to address the current deficiencies providing every adult<sup>2</sup> with universally available, accessible, affordable and empowering communications:

- ✓ Availability (coverage) of voice and broadband services should be enhanced through the implementation of the national broadband network (NBN) and subsidies to extend mobile services;
- ✓ Accessibility (usability) for both voice and data services may be enhanced by applications enabled by digitisation but will need to be supplemented with new obligations;
- ✓ Affordability of both fixed and mobile services needs to be addressed; and
- ✓ Empowering (content/apps [applications]) could start with government providing access to e-services.

Each of these is addressed in sub-sections:

Availability (Section 3.1) has been the main focus of policy and it may be solved soon with the execution of the NBN. However, the NBN may not be the most efficient way of addressing availability. Given consumer preference for mobiles, a key question for USO policy is how far mobile coverage overlaps the NBN’s footprints, because mobile voice and data could become the preferred platform for users seeking service.

Also, the NBN does not solve for the other targets above. Other policy instruments apart from the roll-out of the NBN are needed.

Accessibility (Section 3.2) has been focussed on voice services and the obligations to meet special needs have fallen largely on a single universal service provider (USP). With digitisation, some solutions will be provided spontaneously from the market. Others may need government support while others could be realised through imposing carrier obligations.

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<sup>1</sup> Hawkins, W. and Pavlidis, K. (2015)

<sup>2</sup> Note that traditionally the USO was about providing affordable service to every household. But, now that communications are personal because of mobiles; hence adult rather than household.

Affordability (Section 3.3) has not received enough attention and so it is the longest section in this paper. The market for affordability support (Section 3.3.1) could be up to one million households; around half the households who rely on government pensions or allowances as their main source of income. Then Section 3.3.2 (*Targets for social tariffs as a means of improving affordability*) explores what fixed network pricing could be considered affordable.<sup>3</sup> It proposes that large carriers could be required to offer a broadband social tariff which is no more than, say, 0.6% of median disposable income. The cheapest retail plans for a basic broadband service on the NBN are three times higher than what we need for low income affordability.

Mobile voice and data is not considered a problem for affordability at this time. Competition has ensured that cheap and affordable mobile services are available.

*Implementing affordable broadband* (Section 3.3.3) discusses four options for making social tariffs available to those in most need. The first is to piggy-back existing benefits. Another is to focus on social housing. The third is to impose a social tariff obligation on carriers. And, the fourth is to fix NBN wholesale prices, which are part of the affordability problem now.

The affordability section concludes by noting that work could be done on how to structure social tariffs. The regressive nature of spending on communications is exacerbated by the “poverty premium” which arises through the way low income consumers pay for services.

Section 3.4 (*Are there other universals?*) suggests that the universal principles of availability, accessibility and affordability are not enough to satisfy the aspirations of universal service policy. They are essentially about carriage issues. Content or increasing the utility of the networks for social inclusion is important too. Access to e-government could be facilitated with a government portal app that provides free access to government services and the Emergency+ app should be pre-loaded on all smartphones. But, the section also cautions against over-reach. Many useful content and applications services will become available without policy intervention.

Section 4 (*Who are you going to call?*) tests six options for realising these four policy objectives. There are two compelling options. The first is not to nominate any default retail USO provider (Option 2). This would require only the extension of existing codes and standards by the Australian Communications and Media Authority ACMA to reflect the new fixed broadband, mobile voice and data environment.

The other option is to extend Telstra’s USO obligations into mobiles and data while giving it freedom to choose delivery options (Option 6). This would be easier to implement without leading to extra costs. It is considered the safer option.

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<sup>3</sup> This supposes that providing vouchers or increasing government allowances would be politically unacceptable.

## 2 “Broken Concepts”<sup>4</sup>

The USO (or Community Service Obligation, as it was once called) goes back a long way. It was defined in Section 6 of the *Telecommunications Act 1975* and expressed in Telecom Australia Annual reports as the obligation to “provide every household with the opportunity of obtaining a telephone at an affordable price”.

The standard telephone service (STS) is the deliverable in the USO and is now defined in Section 6 of the *Telecommunications (Consumer Protection and Service Standards) Act 1999* as:



- a telephone service fit for the purpose of voice telephony
- if voice telephony is impractical for a person with a disability, a form of communication that is equivalent to voice telephony.

But, the exact meanings are given expression in Telstra’s 11 page [USO Policy Statement](#) and 71 page [USO Marketing Plan](#); both updated and approved by the ACMA in November 2005.

For most people, the STS means a basic fixed line telephone used to speak with people in other locations. All telephone companies are required to provide the STS with access to:

- local, national and international calls
- 24 hour free access to emergency service numbers
- a unique telephone number with a directory listing, unless the customer requests otherwise
- operator assisted services
- directory assistance
- itemised billing, including itemised local calls on request.

Telstra is currently the sole universal service provider and is obliged to provide an STS to anyone in Australia. Other telephone companies may also provide an STS.

Under the USO, which applies only to Telstra, the supply of the STS includes the provision of a standard telephone handset on request for an additional cost.

But, the current voice-only USO arrangements have been overtaken by many changes that force a review of the future of the USO:

- “The USO currently is an obligation for infrastructure and retail services, however, the environment is moving to separate retail and wholesale levels”<sup>5</sup> In future, neither Telstra nor the nbn own both the infrastructure and customers; unlike the current USO regime.

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<sup>4</sup> This term is borrowed from the ACMA’s excellent series of papers on this topic.

<sup>5</sup> Corbin, Teresa (2015) The Future of the USO in a Multi Technology Environment

- The mobile phone is now the preferred means for voice communications and the number of users on the fixed network is in decline. The ACMA [reports](#) that in December 2014 “nearly one-third (29 per cent) of adult Australians were mobile-only phone users— with a mobile phone but no fixed-line telephone at home. The incidence of mobile-only phone use has increased substantially over a four-year period from 2.2 million at December 2010 to 5.2 million at December 2014”.
- Both fixed and mobile networks are moving to digital (IP) services; voice will become data. Over five million people used voice over internet (VoIP) protocol services in 2014 according to the [ACMA](#). See Box 1 on the UK regulator possibly sanctioning a move to IP telephony soon.

#### **Box 1 - From circuit to packet switched networks – the UK?**

BT wants to move all customers to internet-based voice calls within a decade, but under current Ofcom rules it must continue to provide a traditional phone service. Ofcom says “it has been debated for some years whether different forms of voice telephony (fixed, mobile and internet-based) are substitutes. If so, it could pave the way for deregulating telephony services. This is a key issue for this review and we start from the position that there is a case for deregulation”. This review concludes in October 2015.

BT says the move will have no impact on the majority of customers who are already using internet phones and allow it to invest more in broadband upgrades.

Mark Shurmer, BT’s group director of regulatory affairs, said: “We believe obsolete regulation should be rolled back, rather than clinging on until the last user dies” and “This is an opportunity to clear up the overlaps between the [Openreach] undertakings and EU legislation and regulate in one place only, so it’s more simple, efficient and reduces duplication”.

Sources: The [Daily Telegraph](#) (27 June 2015) and Ofcom’s (2015) [Strategic Review](#)

- Over-the-top (OTT) services have been enabled by the “delaying” of the industry; that is, IP has separated carriage from content allowing OTT content and applications providers to deal directly with end users over networks whose owners and operators are excluded from these transactions.
- The number of people using mobiles only for both voice and data is increasing. Ofcom [reports](#) that almost all adults with a smartphone also have fixed broadband in the UK, with only 4% relying only on mobile access. In Australia, the ACMA [reports](#) that at December 2014, “12 per cent of adult Australians had neither a fixed-line telephone nor fixed internet in their homes, instead using mobile devices for voice, messaging and internet access”. That’s three times higher than in the UK.
- The Australian government’s Digital First Strategy will make it more important for people to be on-line or “red-lined” (i.e. deprived of empowering communications).

- Local call and extended zone areas are shaped around Telstra’s copper network topology which will be supplanted by the NBN: *“When the NBN network is completed, it will deliver universal access for all Australians based, for the first time, on broadband rather than telephony”*<sup>6</sup>.

And, the current Regional Telecommunications Review<sup>7</sup> poses three questions for USO policy:

- 1) *Do we need to continue to guarantee the STS for all (or only some) consumers, and if so, to what extent?* (Q11)
- 2) *Are there new or other services, the availability of which should be underpinned by consumer safeguards?* (Q12)
- 3) *What standards should apply to your services? How might they best be enforced?* (Q13)

With the NBN, improved mobile networks and the migration to all-digital services, it is time to revise USO policy.

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<sup>6</sup> Australian Government Regional Telecommunications Review, Consultation (2015)

<sup>7</sup> Ibid.

# 3 What Are We Solving For?

Universal service has been based on three pillars since the late 1980s<sup>8</sup>:

- ✓ Availability of well-defined services (i.e. fixed voice, emergency services, public payphones and directory information) regardless of geographical location, offered with a specified quality and reliability, and under non-discriminatory conditions;
- ✓ Accessibility (usability) of these services to people with functional limitations; and
- ✓ Affordability of these services.

The first and last of these are what the Vertigan's market and regulatory report termed horizontal equity – “ensuring households can access a service on similar terms, regardless of where they are located” and vertical equity – “ensuring that irrespective of income level, all households can afford the service”(p98).

The principles of availability, accessibility and affordability are timeless, although the focus or content of each will change. Following the discussion of “broken concepts”, the first question is whether the scope of universal service policy should be expanded beyond voice to broadband and whether the focus should shift from fixed to mobile networks.

The European Union (EU) concluded in its 2011 triennial review that they should not be encompassed in universal service. The criteria it looks at are<sup>9</sup>:

1. *Are specific services available to and used by a majority of consumers and does the lack of availability or non-use by a minority of consumers result in social exclusion?*
2. *Does the availability and use of specific services convey a general net benefit to all consumers such that public intervention is warranted in circumstances where the specific services are not provided to the public under normal commercial circumstances?*

In its 2011 decision, the EU also says: “The Commission believes that, at this stage, Member States could be asked to consider including broadband connections in the USO where the data rate in question is used at national level (i) by at least half of all households and (ii) by at least 80 % of all households with a broadband connection”.

Countries within the EU can already include broadband in their USO (as the UK, Finland, Spain and Malta have done). Mandating a European-wide standard even as low as 2Mbps would impose significant costs on some countries and operators. So, the EU has left it to each country to determine what data rate they wish to specify for their USO.

In the case of mobiles, the EU has determined that competition has made service affordable already so there is no risk of social exclusion and no benefit in adding mobiles (i.e. the second test was not passed).

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<sup>8</sup> Feijóo, C. & Milne, C. (Eds.). (2008). Re-Thinking Universal Service Policy for the Digital Era

<sup>9</sup> Annex V, Recital 25 in the Universal Service Directive

In Australia, the NBN project itself sets a universal broadband service goal. The Government’s statement of expectations mandates 25Mbps. That is better than the 10Mbps that Ofcom hopes to persuade the UK government to adopt (currently 2Mbps) out of its current strategic review (p4): *“We estimate that a typical household needs a 10Mbit/s speed to benefit from the most popular online services. But today, 8% of UK premises fall below this threshold<sup>10</sup>, with around 2% (c.500k households) unable to receive the most basic 2Mbit/s service”<sup>11</sup>.*

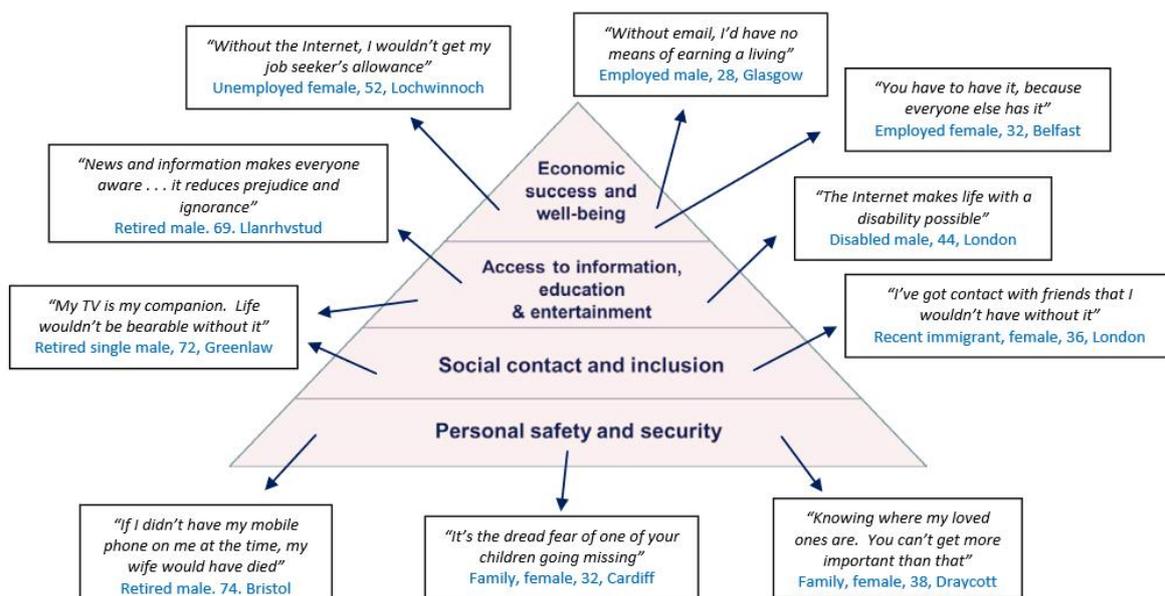
In the case of mobiles, in Australia as in Europe there is strong market competition and the second EU test for inclusion of mobiles in the USO would fail. The issue with mobiles in Australia is coverage and that is being addressed with direct funding (i.e. the Mobile Blackspots Programme).

In the future, it is proposed that USO policy aims to provide every adult with universally available, accessible, affordable and enabling electronic communications:

- ✓ Availability (coverage) of voice and broadband services should be enhanced through the implementation of the NBN and subsidies to extend mobile services;
- ✓ Accessibility (usability) for both voice and data services may be enhanced by applications enabled by digitisation but will need to be supplemented with new obligations;
- ✓ Affordability of both fixed and mobile services needs to be addressed; and
- ✓ Empowering (content/apps) could start with government providing access to e-services.

The outcomes that we would expect from getting USO policy right are illustrated by the quotes below in the chart prepared for Ofcom<sup>12</sup>.

**Figure 1 – Examples of what “essential” means for communications services**



<sup>10</sup> This is better than Australia with 28.7% of users under 8Mbps at December 2014 (ABS Cat 8153.0)

<sup>11</sup> P4, Ofcom (2015)

<sup>12</sup> Ofcom (2014)

The sections below discuss what it means to provide every adult with universally available, accessible, affordable and empowering communications.

### 3.1 Universal availability

Much of the focus of government funding has been on improving the availability of rural communications (See Table 1).

**Table 1: Announced Funding Programmes for the Bush**

Date	Amount	Programme	Purpose
1997	\$250m (\$50m pa for 5 years from 1997-98).	Networking the Nation through the Regional Telecommunications Infrastructure Fund	Meet needs of regional, rural and remote Australia
2001	\$150m	Extended Zones	Provided untimed local call access
	\$46m	Digital Regions Initiative	For health, education and emergency services
2007	\$878m	Broadband Connect	OPEL (\$600m; cancelled)
2008	\$290m over 4 years to 2012	Australian Broadband Guarantee	Provide a metro-comparable service to regions
2009	\$3,000m to FY2021	Satellite and fixed wireless in NBN	To serve the last 7% of all premises
2009	\$250m	Regional Backbone Blackspots	Improve backhaul
2012	\$253m pa	USO	TUSMA <sup>13</sup> contract with Telstra
2014	\$100m (approx \$400m with co-contributions)	Mobile Blackspots	Awarded to Telstra and Vodafone
2015	\$60m	Next round of Mobile Blackspots	Announced May 2015

Source: Author, from government sites.

The coverage of the NBN's fixed network is 93% of premises, which is less than Telstra's copper network. The May 2010 NBN Implementation Study found that "99.75 percent of all premises are

<sup>13</sup> The Telecommunications Universal Service Management Agency (TUSMA). In July 2015, TUSMA was folded into the Department of Communications.

*capable of receiving voice over Telstra's copper network, with low latency and high availability providing a high quality of service" (p319) while "A number of premises that today receive copper-based voice services will, however, be unable to receive mobile voice services". This is why Telstra has a contract to maintain and operate that part of its network which falls outside the NBN's fixed footprint until 2032. The mid-term review should consider what happens to any remaining customers after that time.*

Given consumer preference for mobiles, a key question is how far mobile coverage overlaps the NBN's footprint; including the remains of the copper network that Telstra has been contracted to maintain and operate.

The Regional Telecommunications Review says *"It is estimated that non-metropolitan coverage of 3G stands at approximately 98 or 99 per cent<sup>14</sup> of the population (depending upon the carrier) to 100 per cent urban coverage (but)... around 70 per cent of Australia's land mass<sup>15</sup> has no coverage".*

The estimates above are higher than those in the last comprehensive coverage analysis, the December 2013 Broadband Availability and Quality Report, which found *"Approximately 8.8 million premises (81 per cent) have access to 3G mobile broadband services and about 6.4 million premises (59 per cent) have access to 4G services."* However, that estimate was based on October 2013 data, before Telstra announced it would extend its 4G coverage to 95% of the population and before the nearly \$400m Mobile Blackspots Programme was announced in June 2015 covering an extra 150,000 sq. km.

The last 7% of customers who cannot be served by the fixed network will have access to the NBN's fixed wireless or satellite network. At the inception of the NBN, it was planned to make it a monopoly so that it could cross-subsidise the high cost services with a geographically uniform tariff. But, there will be infrastructure competition for the NBN and the current study by the Bureau of Communications Research (BCR) is looking into funding options for the NBN non-commercial fixed wireless and satellite networks (e.g. a USO levy).

### 3.1.1 Performance and reliability

As noted in Section 2 above, digitisation and broadband have created new challenges and opportunities.

A good place to start is the move from voice telephony over copper (the STS) to voice over mobiles and broadband (see Box 1 above). The ACMA reports that in 2014 *"Australians are less satisfied with their VoIP service than their fixed-line and mobile phone services—77 per cent of consumers are satisfied or very satisfied with their VoIP service compared to 89 per cent for fixed-line phones and 86 per cent for mobile phones. Satisfaction levels increase up to 84 per cent for those with a paid subscription to a VoIP service"*.

Many aspects of performance, service and reliability are addressed through:

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<sup>14</sup> That is better than the UK with 84% of UK premises having 3G outdoor coverage from all operators in 2014, 71% having indoor coverage (Ofcom 2015 Strategic Review).

<sup>15</sup> 7,692,000 sq km

- The Telecommunications Consumer Protections Code (TCP) which applies to all telecommunications providers in the residential and small business market now.
- The Customer Service Guarantee (CSG) which also applies to most<sup>16</sup> telecommunications providers.
- The Network Reliability Framework (NRF) which applies only to Telstra copper but will become progressively redundant (except for TUSMA/USO contract) unless the obligation is transferred to the nbn.

These focus on voice and will need to be revisited in the context of broadband and mobiles . Increased dependence on the services which use internet connectivity means that consumer expectations of fixed and mobile networks have increased, while at the same time the negative impact for a consumer when something goes wrong has also increased: *“new services like VoIP, mobiles, or broadband Internet, have been developed using different technologies, standards, protocols, and configurations, compared to the public switched telecommunications network that provided the basis of conceiving the old USO. There is now demonstrable potential for consumers to receive lower quality of service than previously expected (as VoIP or mobiles respectively demonstrate — with potential threats to quality of emergency service, or the problems of coverage and call drop outs). Further, the new structure of markets in communications, and the introduction of new wholesale entities (such as nbn) or co-ordination entities (USO Co) which involve new relationships between public (government) and private (market) pose considerable challenges for guaranteeing service levels for universal communications”<sup>17</sup>.*

### **3.2 Universal accessibility**

The standard telephone service (the STS) made a lot of assumptions about the customer which were not all appropriate and limited the ability of some people to use the service. Table 2 below illustrates the implicit assumptions showing that special efforts are needed to help some customers.

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<sup>16</sup> The CSG can be waived; it does not apply to all telecommunication providers. TPG for example does not provide CSG products.

<sup>17</sup> P7 Goggin (2010)

**Table 2 – Social constructs assumed in standard telephone service (STS)**

<b>Feature</b>	<b>User</b>
Voice Service	Someone who belongs to an oral-aural culture
Connection Costs	Someone who is most likely to live in an urban area with pre-existing (or at least pre-installed) services and where the dwelling is not very far from the property boundary
Legal Lessee	A single identifiable person who is able to take responsibility for all usage of the service and including all consequent liabilities
Mobility	Someone who does not move about very often, who lives in a relatively stable household that does not change inhabitants very often
Billing	Someone who has a reliable postal address and regular postal service, access to payment transaction facilities, relative stability of location, and is able to estimate and budget for accruing charges
Pricing	Someone who is most likely to have a stable and reasonable level of income, who can afford the fixed cost monthly access charge and who makes an average number of calls from their service and so benefits from the post-1997 re-balancing between access and call charges
Handsets	Someone who does not belong to the 20 per cent of the Australian population that has a reported disability (Australian Bureau of Statistics 2003) and might require assistive technology in the use of communications and associated Customer Premises Equipment

Source: Morsillo (2008)

Solutions to a number of these accessibility issues include the Teletypewriter (TTY), which was introduced as a result of a court case before the Human Rights Commission in 1995<sup>18</sup>.

In the case of handsets, Telstra provides access to a variety of phones and accessories to make calling easier. Products include big button phones, visual alerts, cochlear implant telephone adaptors and teletypewriters. The program offers specialised telephone equipment to eligible customers that can be rented for the same cost as a standard telephone handset. Other providers also offer TTY and priority assistance (Optus does both of these voluntarily) but Telstra is the only provider obligated to do so.

A typology of users with special needs has been identified by Ofcom with all but the last two segments concerning accessibility (see Box 2). Australia’s list also includes indigenous customers<sup>19</sup>.

**Box 2 - Ofcom and Accessibility**

There are groups of consumers who may be under-served by the market due to specific requirements they may have. In particular, consumers in vulnerable circumstances may need extra

<sup>18</sup> Morsillo (2008)

<sup>19</sup> See Telstra’s *Access for Everyone* site for details of all supplementary support programmes.

assistance in accessing communications services. Where the market does not address these use cases, they may require public policy interventions.

Consumer groups we take account of in our work include:

- Consumers with hearing or speech difficulties, by mandating the provision of relay services;
  - Consumers with visual impairments, by mandating the provision of bills in accessible formats and free directory enquiries for people who cannot use the printed directory because of their disability;
  - Consumers who depend on the phone because of severe disability or ill-health, by mandating priority fault repair;
  - Older consumers who may have health or accessibility reasons for having different needs from communications services;
  - Consumers on low incomes in receipt of certain benefits, who can access social tariffs, which reduce the price of line rental and include a small call allowance; and
  - Consumers who become vulnerable from life events such as bereavement or illness which can temporarily reduce people's ability to participate in society and/or increase their dependence on certain communications services.
- Without intervention the risk of social exclusion could increase over time as communications services become ever more fundamental to our interactions with central and local government services, and public services such as healthcare.

Source: Ofcom (2015) Strategic Review, p64

Telstra has done a good job meeting its licence obligation to serve customers with special needs: *“Telstra’s Access for Everyone package compares favourably with similar schemes in the UK and the US, in terms of its breadth of coverage across a range of disadvantaged groups and its focus on their particular needs. By contrast, schemes in the other countries are targeted mainly just at households with low incomes”*<sup>20</sup>.

But the new technology embodied in mobiles and broadband networks provides opportunities to serve disadvantaged customers in new ways (See Box 3 for just one example).

### **Box 3 - Glasses provide new eyes to blind**

Israeli start-up Orcam is generating global buzz over its technology to help the visually impaired. The small gadget, containing a camera and earpiece, clips on to a pair of glasses and tells the wearer what's in front of them. It can read the text of a book or menu, identify products on supermarket shelves and even announce the names of friends and family in a room. The company said it had pre-sold “several hundred units” following their introduction on June 4 at a price of \$US2,500 each, with the first 100 units shipping in September and the remainder expected to be shipped by the end of 2013.

Source: ACCAN Magazine, Winter 2013

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<sup>20</sup> Eardley (2009)

Many solutions will be provided spontaneously from the market. Others may need government support while others could be realised through retail service provider obligations.

### 3.2.1 Imposing carrier obligations

The ACMA could impose accessibility (and affordability) obligations either through changes to the Telecommunications Consumer Protections Code noted in Section 3.1.1, or carrier licence conditions<sup>21</sup> or, more likely, through determinations issued through Section 2 of the Telecommunications Act 1997<sup>22</sup>. Two examples of the latter approach are:

- The ACMA has made the Telecommunications (Service Provider - Identity Checks for Pre-Paid Public Mobile Telecommunications Services) Determination 2000, which requires that carriage service providers must not issue a number as part of the supply of a pre-paid carriage service to a person unless the person has provided the carriage service provider with specified information relating to the person's identity.
- The ACMA has also made the *Telecommunications (Backup Power and Informed Decisions) Service Provider Determination 2014*, which requires carriage service providers to obtain an informed decision from residential fixed line telephone customers on nbn fibre to the premises infrastructure regarding their backup power supply (backup battery) requirements and to keep appropriate records for a specified period.

Work needs to be done on what accessibility (including performance and reliability standards) requirements may need to be addressed in a fixed broadband and mobile voice and data context.

## 3.3 Universal affordability

Affordability is one of the three corner-stone principles of universal service and the one least well served by current USO policy. In Table 3 below, there is just \$40m p.a. for Commonwealth funding of affordability (the telephone allowance). As noted earlier (Table 1), the main focus has been on availability.

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<sup>21</sup> Under Division 3, Section 111 of the Radio Communications Act 1992 <https://www.comlaw.gov.au/Details/C2015C00143> the ACMA can make changes to the licence conditions of individual licensees or receive a direction from the Minister through a legislative instrument to make changes.

<sup>22</sup> Schedule 2 of the Act already includes obligations on service providers with respect to operator services, IPND (numbers), directory services and itemised billing. Under section 99 of the Telecommunications Act, the ACMA may make a written determination setting out additional rules that apply to service providers in relation to the supply of specified carriage or content services.

In Australia affordability has not been addressed through the USO but through carrier licence conditions on Telstra and implemented through low income measures (LIMAC)<sup>23</sup>. The retail price caps which had applied to Telstra have been removed as part of deregulation.

**Table 3: USO related funding**

Funder	Programme	Objective	Comments
Commonwealth and industry	USO (\$253m p.a.)	Availability	Telstra \$253m p.a. to 2032
Commonwealth	Payphones	Availability	Telstra \$44m p.a.
Commonwealth	<u>National relay service</u>	Accessibility	\$18m p.a. until July 2018
Commonwealth	<u>Emergency call</u> handling	Availability	\$22m p.a. up to 20 years with a tender to be conducted by June 2016
Commonwealth	<u>NBN voice only migration</u>	Availability	\$150m before GST over 10 years shared between Telstra and other eligible Retail Service Providers
Commonwealth	Telephone Allowance to certain eligible pensioners	Affordability	Depending on the beneficiary's circumstance; either \$27.20 or \$40 per quarter (approx. \$40m p.a.)
Commonwealth	New Satellite Support Scheme	Availability	To allow 9,000 premises unable to access nbn's Interim Satellite Service to access commercial satellite services (2014)
Telstra	<u>Access for Everyone</u> meets licensing conditions with solutions endorsed by the Low-income Measures Assessment Committee (LIMAC).	Affordability and Accessibility	A variety of support measures with a focus on voice (e.g. InContact); all funded by Telstra for around \$145m pa (2013-14)

Sources: Hawkins and Pavlidis (2015), author (objectives) and sites as linked.

What do we mean by affordable? Ofcom considers that a "service is considered to be affordable for a consumer if the consumer is able to purchase it without suffering undue hardship" (Ofcom 2014).

<sup>23</sup> See Telstra's Access for Everyone site for details of its support programmes. Representatives on the LIMAC Committee include the Australian Council of Social Services, the Smith Family, the Saint Vincent de Paul Society, the Salvation Army, Jobs Australia, Homelessness Australia, Anglicare Australia and the Council on the Ageing.

This echoes another definition of affordability as “a consumer’s ability to pay for and use telecommunications without sacrificing expenditure on other essential services and items” (Lewin & Milne 2010, p4-5).

On this definition, affordability is a problem. Pavlidis and Gadir report<sup>24</sup> findings from the 2013 Anglicare Victoria hardship survey that show almost 6% of clients were deprived of all forms of telecommunications and almost half had only had one form of telecommunication. Deprivation of home internet (49.2%) and mobile internet (56.1%) was also high.



In contrast, only 10.9% of survey respondents did not own a mobile for affordability reasons. However, over one third of those with mobile phones thought that they were either ‘somewhat’ or ‘very’ unaffordable. This perception, coupled with the respondents’ widespread use of mobile phones, suggests an element of ‘essentiality’. That is, mobile phones are considered such an essential item that despite many respondents finding them unaffordable, they continue to use them.

Internet deprivation is significant because the survey respondents know it can improve their lives. As Pavlidis and Gadir say<sup>25</sup>, “This is hardly surprising given that the Internet is a tool in multiple everyday activities across all spheres of life. One salient aspect of Internet deprivation would be severe limitation on access to employment opportunities and job application processes which have largely shifted online. Without easy Internet access one is less likely to benefit from government services which might require recipients to have an online account. Government agencies, including Medicare and Centrelink, are moving to online methods of service delivery and ‘app’ based interaction”.

This has become even more critical with the Government’s Digital First Strategy which says that “A more digital, networked economy is about far more than broadband. It is about tumultuous change in workplaces ... It’s about expanding options and opportunities for individuals, whether as consumers, workers or entrepreneurs”. The corollary is that those without access will be deprived of these opportunities.

The need to do more is discussed in Section 3.4.

### 3.3.1 The market for affordability support

The Anglicare Victoria and similar surveys are useful because they give important insights about demand from those that need help with affordability. But, how big is the market for affordability support? One view of market segments is given in Table 4 below.

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<sup>24</sup> Pavlidis, K. and Gadir, J. (2013)

<sup>25</sup> Ibid.

**Table 4 – Disadvantaged Customer Segments in 2010**

	MAIN SOURCE OF HOUSEHOLD INCOME 2009-10						Total	All households
	GOVERNMENT PENSIONS AND ALLOWANCES							
	Receives age pensions	Receives disability and carer payments	Receives unemployment and study payments	Receives family support payments	Receives other payments			
No. of persons (000s)	1,687	933	374	727	154	3,875	22,342	
No. households (000s)	1,182	647	303	417	379	2,120	8,399	
No. in State/territory housing (000s)	98	161	63	134	19	476		
Mean disposable household income, \$/week	551	497	403	405	531	478	938	

Sources:

ABS Household Expenditure Survey 2009-10 (incl feature article) Cat 6530

ABS Cat 6523, Table 1.1 for overall mean disposable income in 2009-10

ABS Cat 3101 for total persons in 2009-10

The customer segments shown already receive various forms of support so they are likely to include some of those that need support for affordable telecommunications. Note that the table shows only those for whom the pension or allowance is the “main source” of household income – e.g. there are many more age pensions than shown above. Note also that some households may receive more than one type of allowance (e.g. the total number of households where government pensions and allowances are the main source of income is 2.12 million; not 2.93 million, the sum across the row).

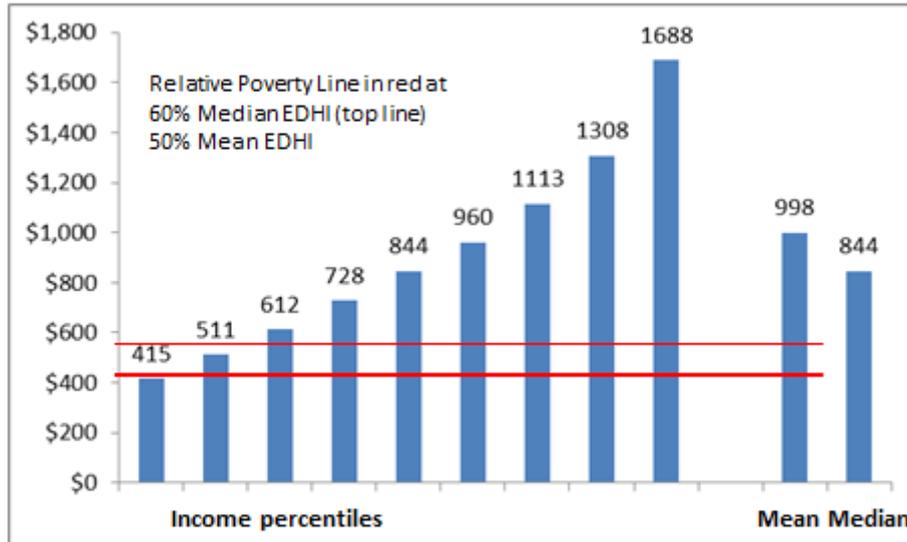
Another view of the market for affordability support is derived from what the Australian Bureau of Statistics (ABS) calls the relative poverty line: “*Many developed countries use relative poverty to measure the economic wellbeing of households. These measures identify the proportion of people with an income below a certain fraction of median equivalised disposable household income (EDHI)*”<sup>26</sup>.

Equivalised means standardised for household composition. For example, “*a couple household with one child would need \$1,800 weekly disposable income to have the same equivalised disposable household income (EDHI) as a lone person household with a disposable income of \$1,000*”. The median is a form of average where exactly the same number of people or households fall either side of a certain amount. The mean is the simple average. These two averages are included in Figure 2 below which shows average weekly EDHI by percentile.

There is no general agreement on where to draw the line on relative poverty. The OECD publishes various analyses based on 40%, 50% or 60% of median incomes (50% used most often), while Eurostat commonly uses 60% as the cut-off.

<sup>26</sup> ABS Cat. 6523

**Figure 2 – Household Disposable Income by Percentile, 2013-14**



Source: Table 1.1, ABS Survey of Income and Housing (6523.0)

At 60% of the median income, the relative poverty line in Australia in 2013-14 was \$506 per week. This puts three of the customer segments in Table 4, that is, up to 4 million people and up to one million households, below the relative poverty line (Table 5).

At 50% of the median income, the relative poverty line in the same time period was \$422 per week, placing two of the customer segments in Table 4 below the relative poverty line (Table 5).

**Table 5 - People and Households below the Relative Poverty Line, 2013-14**

Poverty Line at:	Population		Households	
	Millions	Percent	Millions	Percent
\$506 (60%)	4.3	19.0	1	12.2
\$422 (50%)	2.0	8.8	0.5	6.0

Source: ABS 6523, Household Income and Wealth 2013-14, Table 1.3

To give some concrete examples of low incomes, at April 2015, the base rate with energy supplement and household assistance for a single aged pensioner was \$430.10 per week. For an unemployed person with two children at home, Newstart with related benefits is worth \$544.67 per week<sup>27</sup>.

<sup>27</sup> SACOSS Cost of Living Update, March Qtr. 2015

### 3.3.2 Targets for social tariffs as a means to address affordability

A “social tariff” is a price determined for low income customers. It may be offered voluntarily by service providers as an entry-level tariff or they may be required to offer such tariffs – as argued below.

What can up to 4 million low income people afford? Can we set quantitative affordability targets? Defining affordability for a minimum level of service requires identifying a threshold above which a household’s ability to pay for the service is compromised. Thresholds based on the share of income or expenditure is recognised as one way of analysing affordability<sup>28</sup>.

Let’s start with where we are now. The following table shows what our target segments spend on three main groups of communications services. The household expenditure survey averages spending by item over all households, whether they bought the item or not. The table uses some adoption rates to exclude people not using the service and then looks at the resulting shares of disposable income and total spending on goods and services<sup>29</sup>.

**Table 6 – Disadvantaged Segments Communications, 2009-10**

	MAIN SOURCE OF HOUSEHOLD INCOME 2009-10 GOVERNMENT PENSIONS AND ALLOWANCES					Total	All households
	Receives age pensions	Receives disability and carer payments	Receives unemployment and study payments	Receives family support payments	Receives other payments		
Mean disposable household income, \$/week	551	497	403	405	531	478	938
Total spend on goods and services \$/week	565	727	713	834	601	613	1,236
Average spend on (\$/week):							
Fixed voice	15.11	14.04	13.56	14.04	15.36	14.14	14.67
Mobile	4.2	9.9	15.88	14.28	5.37	7.23	16.74
Fixed internet	3.09	4.88	7.45	6.47	4.4	4.02	7.77
Adoption rates:							
Fixed voice	100%	85%	82%	79%		97%	
Mobile	92%	83%	100%	95%		98%	
Fixed internet	88%	76%	78%	74%		94%	
Average spend adjusted for adoption rates: \$/week							
Fixed voice	\$15.17	\$16.44	\$16.48	\$17.79		\$14.56	
Mobile	\$4.57	\$11.88	\$15.88	\$15.08		\$7.41	
Fixed internet	\$3.53	\$6.46	\$9.58	\$8.78		\$4.26	
As percent of disposable income:							
Fixed voice	2.75%	2.82%	3.36%	3.47%	2.89%	2.96%	1.56%
Mobile	0.83%	1.99%	3.94%	3.53%	1.01%	1.51%	1.78%
Fixed internet	0.64%	0.98%	1.85%	1.60%	0.83%	0.84%	0.83%
Total	4.22%	5.80%	9.15%	8.59%	4.73%	5.31%	4.18%
As percent of total spending:							
Fixed voice	2.69%	1.93%	1.90%	1.68%	2.55%	2.31%	1.19%
Mobile	0.81%	1.36%	2.23%	1.71%	0.89%	1.18%	1.35%
Fixed internet	0.63%	0.67%	1.04%	0.78%	0.73%	0.66%	0.63%
Total	4.12%	3.96%	5.17%	4.17%	4.18%	4.14%	3.17%

Sources:

ABS Household Expenditure Survey 2009-10 (incl feature article) Cat 6530

ABS Cat 6523, Table 1.1 for overall mean disposable income in 2009-10

Morsillo (2012) for adoption rates

<sup>28</sup> UK Regulators’ Network (2015)

<sup>29</sup> Although disposable income is less than expenditure, “The ABS has long advised that some low income households have characteristics that indicate they have a higher standard of living than that implied by their incomes alone” (p12, Cat 6554, October 2011).

To set an affordable social tariff, we need to know what measure of income or expenditure will be measured against the target percentage for affordability. It needs to be easily obtainable and current. For now, let's use median EDHI which in 2013-14 was \$844<sup>30</sup>.

To illustrate the setting of an affordability target, let's take fixed broadband. As ACCAN says, "*a broadband service at a reasonable price should be a universal right ... The NBN is a publicly funded initiative and it should serve community needs. The Government therefore has an obligation to work with retailers to deliver specific services for low income consumers and other classes of consumers for whom the market alone may not deliver adequate or appropriate services*"<sup>31</sup>.

In August 2015, the cheapest retail NBN plans for Telstra, Optus, TPG and iiNet averaged \$69 pm; which includes line rental but not calls. That's \$17.25/week and 2.0% of median EDHI. It is up to twice as much as what the customer segments in Table 6 were paying for fixed internet.

It is not getting any better. The ACCC (2015) reports that NBN retail prices increased 4.6% in real terms (about 7.6% nominal) in 2013-14; the only telecommunications service whose prices increased in the year. This is not helping to achieve affordability. A social tariff for affordable fixed broadband at around \$5/week or 0.6% of median EDHI in 2013-14 is needed.

A similar approach needs to be taken to defining social tariffs for fixed voice and mobile voice/data.

### 3.3.3 Implementing affordable broadband

The problem with making a social tariff available to, say, those who receive age pensions is that they are not all needy. Tables 4 and 5 included only those whose main source of income was government pensions/allowances. But, that is an ABS construct; not an administrative construct. Tying rights to social tariffs to existing pensions and allowance regimes may be problematic.

Another approach is targeting, say, those in social housing (see Box 4). A local example of assistance targeted to users in social housing is that provided by infoXchange in Melbourne. In Australia, there are over 300,000 households in social housing<sup>32</sup>.

#### **Box 4 - Rogers Communications in Toronto**

In June 2013, Rogers Communications announced that youth living in Toronto community housing would have access to C\$9.99 per month (versus C\$41.9 for the cheapest plan<sup>33</sup>) for broadband internet speeds of 3Mbps and a usage allowance up to 30 GB.

Microsoft Canada and Compugen are supporting the program by providing the option to purchase a computer for \$150 that will come pre-loaded with complimentary software along with access to technical support.

The C\$9.99 translates to just 0.3% of per capita Gross National Income (GNI) in Canada.

<sup>30</sup> ABS Cat 6523, Table 1.1 updated the mean \$938 shown in Table 6 using CPI. The median is taken from the middle percentile shown in the same table.

<sup>31</sup> ACCAN, 2010, p. 4

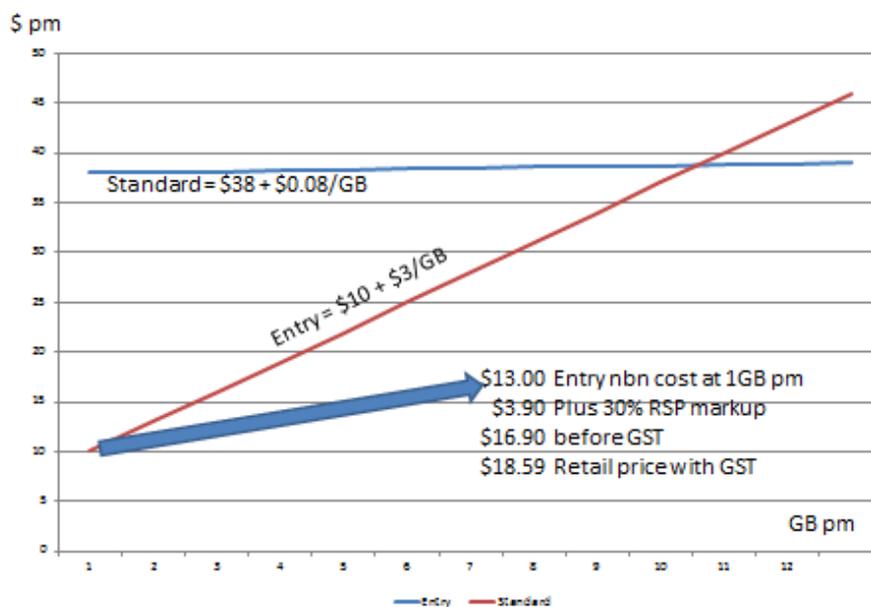
<sup>32</sup> ABS Cat 4102

<sup>33</sup> LITE home internet gives 8Mbps/256Kbps and 20GBpm  
<http://www.rogers.com/web/link/hispeedBrowseFlowDefaultPlans>

A third approach is to mandate social tariffs; which could be imposed by the ACMA (Section 3.2.1).

A fourth approach changes NBN wholesale pricing to help achieve affordability. Currently, the minimum wholesale cost on the NBN is \$24 pm (for 12/1 Mbps); which is a high place to start from for affordable retail pricing. As illustrated in Figure 3, a “Traffic” pricing model<sup>34</sup> would allow the nbn to cut the current minimum cost by more than half, leading to affordable retail pricing. The estimated retail price for the entry level plan is below the \$5/week target suggested earlier. The scheme administers itself because only low data usage users will take an entry level plan and their service provider will shift the wholesale tariff to the standard tariff when usage grows beyond the breakeven point – and, hopefully, move the user to a new retail plan too.

**Figure 3: Proposed Standard and Entry Level NBN Wholesale Plans**



<sup>34</sup> De Ridder, J. and James R. (2014) *Affordable retail pricing on the NBN*. Australian Journal of Telecommunications and the Digital Economy, Vol 1, No 1, Article 5.

**Table 7: The total cost of ownership – options for low income households, 2015**

	<b>NBN+PC(new)</b>	<b>NBN+PC(recon)</b>	<b>Wireless+Tablet</b>	<b>Prepaid Mobile</b>
<b>Device</b>	\$380	\$220	\$679	\$59
<b>Software</b>	\$169	\$169	\$9.00	
<b>NBN/WiFi/SIM</b>	\$149	\$25		
<b>Internet(\$pm)</b>	\$75 -> \$18.59	\$49.95 -> \$18.59	\$50	\$30.00
<b>Total 2 year, \$pr</b>	\$104 -> \$48	\$67 -> \$36	\$87.00	\$32.00

Dell laptop, Microsoft Office, \$75 pm (100GB), \$149 for modem, local calls 50c, STD calls 52c+50c/min	cheapest iPad (Mini 3), Office 365 \$12 pm, prepaying \$50 for 5GB over a year (or shorter term for aaround \$10/GB)	cheapest smartphone 1.3Gb and \$250 of included calls
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Source: Morsillo method and web sites accessed 15 September 2015

Morsillo<sup>35</sup> estimated the total cost of ownership of internet access for low income households. The wholesale traffic pricing proposal above would make a significant difference, as shown in Table 7. The revised prices are based on only 1GB per month of data with Telstra. This would be sufficient to support an affordable voice service but the 1GB might need to be supported by unmetered access to on-line government services to fulfil the empowerment objective.

Also, work needs to be done on how to structure social tariffs because the regressive nature of communications spend discussed earlier is exacerbated by the “poverty premium”<sup>36</sup> which arises through the way low income consumers pay for services; in particular pay as you go for mobile phones or paying for their communications service by non-direct debit payment methods (where a payment surcharge may apply).

### 3.4 Are there other “Universals”?

Are there other universality principles opened-up by changes in technology and markets? The Regional Telecommunications Review raises the issue “*Are there new or other services, the availability of which should be underpinned by consumer safeguards?*” (Q12)

As Goggin points out, “*Many of the mooted benefits and imagined uses of the NBN — for instance, in the area of health, welfare, or government services — are predicated on assumptions about consumers being able to easily and affordably access particular kinds of content or applications.*”<sup>37</sup>

<sup>35</sup> Morsillo, R, (2012) “Broadband affordability in Australia: Looking beyond availability”, in Telecommunications Journal of Australia, Vol. 62, Number 5

<sup>36</sup> Ofcom (2014) and SACOSS (2015)

<sup>37</sup> P8, Goggin (2010)

To the extent that most people have access to some new content or applications, but the market is not extending them to all end users and there would be a public benefit (externality) in universal provision, there may be case for public intervention - if it does not distort competition.

It is likely that these conditions could be satisfied by enabling access to e-education, e-health and e-government. They seem likely to be important for universal digital inclusion and participation in society. All of these are key enablers to help lift people out of poverty.

With the Coalition Government's Digital First Strategy, all government services and public interactions are to be available digitally by 2017<sup>38</sup>. Maybe, this could be done with an app for a government portal on mobile phones? On the home page of all other providers, a similar button could be prominently displayed. And, to cap it off, all content delivered through the government portal could be free to the end customer.



Goggin raises *“the role of content, and where it fits into policies of universal communications; this is a reprise of an old topic in debates on universal service, and also information society — but a new, urgent emphasis is ushered in with the role played by issues of intellectual property, copyright, and digital rights management”*. These may encroach on property rights beyond the control of government in a USO context – but they can be and should be dealt with by government in other contexts; e.g. not making the existing situation worse with preferential trade agreements.

Among new or other services, Goggin raises for consideration: *“affordable access and use of applications as well as platforms and technologies; for instance, search is ubiquitously provided by the good offices of Google and competitors, but in the future other applications may arise that form part of essential services”*. That is an interesting thought. But should government mandate access to a commercial service like Facebook? In some countries, mobile operators provide free access to services like Facebook or Spotify as a point of differentiation and to generate traffic and customer loyalty (see Box 5 on Facebook's initiative).

#### **Box 5 - Affordable mobile internet access**

Internet.org was founded in August 2013 by Facebook, Ericsson, MediaTek, Nokia, Opera, Qualcomm and Samsung with the object of making internet access available to the two-thirds of the world who are not yet connected. The Internet.org app on a mobile phone provides free basic services to a mobile operator's customers with access including education sites, healthcare information services and a number of job and news services. Facebook has launched this app in many under-served countries in Africa and around the world, including India, Ghana, Kenya and South Africa. Partnerships with mobile operators around the world allow for free or discounted data on Facebook and Internet.org for an initial 12 month period after which customers have the option to buy the mobile operator's data bundles while on Facebook or Internet.org

Source: <https://www.internet.org/>

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<sup>38</sup> Liberal Party of Australia (2013)

After voice, the SMS text service has been a very popular communications tool because of its convenience and affordability, although prices exceed costs so much that the ACCC has made SMS a declared service<sup>39</sup>. Despite the plethora of communications apps that have emerged with digitisation, SMS retains a significant advantage. Unlike SMS, where texts can go between any two mobile phones, there are limitations with many communications apps because the same app must be used by both users attempting to communicate with each other. This seems to be the case with many messaging apps (see Box 6).

BT and Vodafone want Ofcom to make such apps connect to each other, so WhatsApp users would be able to text those on Apple's iMessage, for instance. That requires heavy-handed regulation. Market based solutions may emerge. For example, Telegram requires an account which then allows users to sign-in on multiple devices across Windows, Mac, Android iOS and the web.

#### Box 6 - Messaging disconnects

Whatsapp with 700m active users is the most popular messaging service but it is linked to a mobile phone number; the app has to be registered on each device. Other popular apps lock you into their own ecosystems: *"Switching messaging services is a major pain. You'll never get everyone to switch, so each new service becomes another app on your phone (so) I'll continue to iMessage my (Apple) iPhone friends, Hangouts with my (Google) Android mates, Slack while at work, Facebook Message our trivia team, Twitter DM my nerds."*

Source: Peter Wells column in SMH Business Day, 7 July 2015

**Emergency +** 



Call the right number with the right information. Helps you choose the right assistance number and give GPS locations from your smartphone.

Given the importance of Triple Zero for emergency calls from fixed lines, one app which it is worth pre-loading on all new smartphones and tablets is the Emergency+ app developed by the Commonwealth and suitable for iOS (Apple) and Android smartphones.

We can agree with Goggin<sup>40</sup> that *"The old USO struggled to incorporate the important goal of consumer choice"*. True, the contestability for the USO obligation was a failed experiment. Perhaps *"The provision of universal services is not contestable but it is clear that consumers want choice in their providers and the market needs competition to deliver. Therefore we need to find ways in which the USO doesn't have one company or one technology entrenched as the recipient of subsidies"*<sup>41</sup>.

But, how can we move beyond Telstra as an increasingly inappropriate 'carrier of last resort' when it comes to measures to provide services and programs for low-income consumers?

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<sup>39</sup> In August 2015, the ACCC decided that the terminating cost of SMS should be 0.03 cents/SMS from January 2016. This compares with retail prices up to 29 cents/SMS on some of Telstra's pre-paid offers. (Beyond talk and Long Life; at September 2015).

<sup>40</sup> Op. cit.

<sup>41</sup> Teresa Corbin (2015)

# 4 Who Are You Going To Call?

There are six broad USO policy options. All have to be supplemented with affordability and accessibility initiatives for both broadband and/or mobiles.

One of the three dimensions that differentiates the six options is voice versus broadband (includes voice and data) as the focus of USO policy. In practice, a voice-only USO is defunct because there is bi-partisan support for universal broadband. But for completeness Options 1 and 5, which are limited to voice, are discussed.

The second dimension is the technology platform. In the current voice-only USO, the platform is the copper network. The NBN is the replacement platform and there is probably no voice and data substitute for the fixed wireless and satellite components of the NBN on which at least 3% of customers will have to rely. But, for the vast majority of customers, mobiles have emerged as the platform of choice for both voice and data.

There are six options against fixed and mobile platforms.

**Option 1** is the status quo with a voice based USO delivered over Telstra's fixed copper network.

**Option 2** is a benchmark option with no USO obligation (although carrier obligations may apply)

**Option 3** bases the USO obligation on the NBN networks.

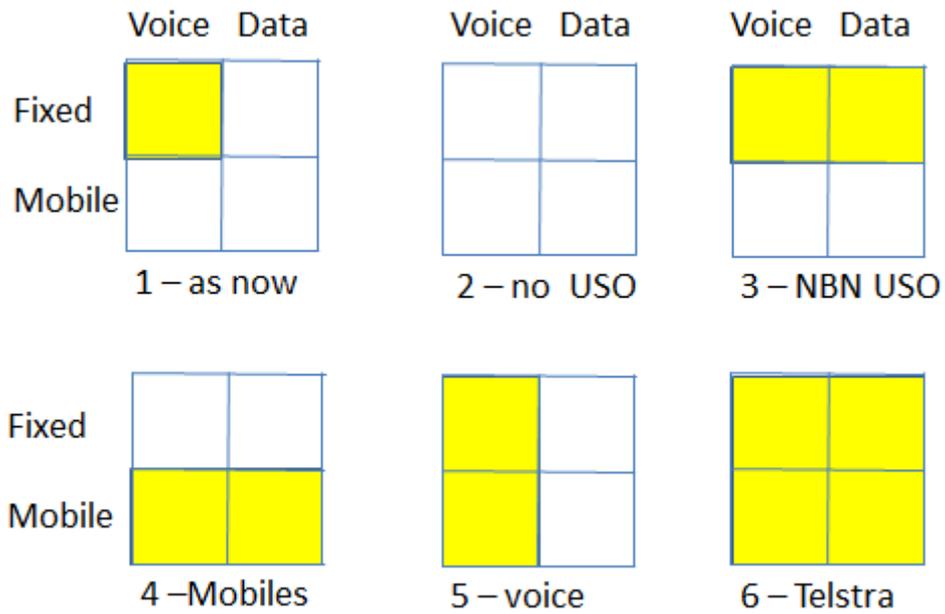
**Option 4** switches the USO to mobile networks.

**Option 5** confines the USO to voice, as now, but includes mobile networks.

**Option 6** is the "safe option" based on Telstra (as USO provider) using a technology neutral approach

These are illustrated in Figure 4 below.

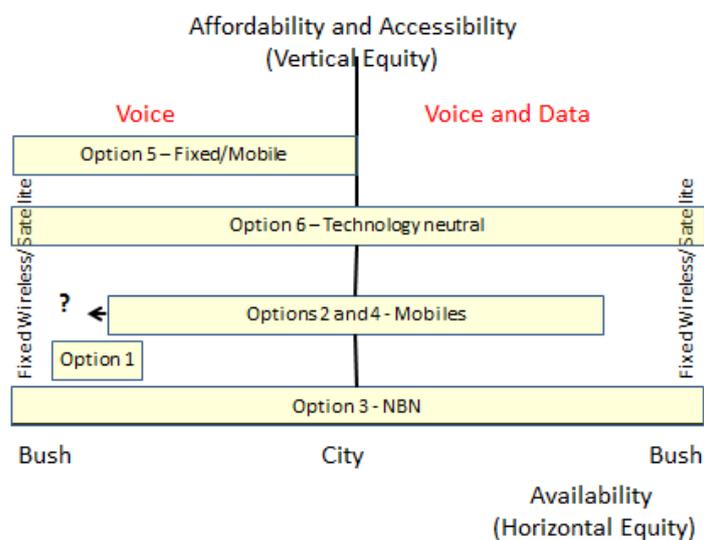
**Figure 4: Six USO Options**



Source: Author

Before we go into more detail on these options, the third dimension needs to be added. As described above, the options are only “supply-side”. They address only availability noting geographical constraints posed by different platforms. We also need to address the “demand side”, which in USO terms means vertical equity leading to accessibility and affordability.

**Figure 5: USO Options and Equity**



Source: The author (File ACCAN/slides.ppt)

Figure 5 above maps the six options in Figure 4 against horizontal and vertical equity for voice only (left hand of chart) as well as voice plus data (right hand side of chart). The third dimension is represented by the vertical axis – the higher the better. Option 3 is shown at the lowest point on this axis because it does least in terms of affordability and accessibility, as will be discussed further below. However, this option has the widest spread on availability (horizontal axis) because it includes fixed-wireless and satellite.

Going up the vertical axis, the reason for the question mark just above Option 1 (voice-only) is that we do not know the extent to which improved mobile coverage may make Option 1 redundant.

Options 4 (mobile voice and data) has been placed above Options 1 and 3 because mobiles are generally considered to be more affordable than fixed services. Prepaid is part of that outcome but more could be done to make mobiles more affordable.

Option 2 (no USO) is included with Option 4 as it is argued below that mobile competition, supplemented with obligations to address accessibility and affordability, would not require nominating a universal service provider.

Option 6 (Telstra) is based on nominating a universal service provider; say, Telstra. It sits higher than Option 3 because it also addresses accessibility and affordability goals. And it is above Options 2 and 4 because of availability (fixed wireless and satellite).

Option 5 (voice-only across fixed and mobile) is high on the vertical equity scale because Telstra has developed a suite of “*Access for Everyone*” measures with the Low Income Measures Assessment Committee (LIMAC) to improve affordability and accessibility for fixed voice services. They apply to all Telstra’s retail voice customers; including those served under Option 1. But, Option 5 does not include data.

Now, we can take a closer look at the six options.

## 4.1 Option 1

Voice-only on the fixed copper network. With the exception of Telstra's contract with TUSMA<sup>42</sup> to continue providing the USO over copper in areas not served by NBN's fixed network, the existing USO obligation is broken because the copper network is being de-commissioned as the fixed network NBN rolls over it and broadband should now be considered to be part of universal service.

Other issues are that this option ignores the important role that mobiles now play and also ignores broadband data which is now considered to be essential.

Can we free-up resources from the long-term TUSMA contract to put them where they will provide greater benefits? Consider:

- It is expensive. From 1 July 2012, TUSMA must pay Telstra \$253 million pa (not indexed to CPI) for supply of the standard telephone service (STS), subject to payment adjustments to take account of increases or reductions in Telstra's costs if there is a change in the scope of the STS services Telstra is required to provide<sup>43</sup>.
- Alternatives may exist. Mobile coverage is probably greater than assumed by the Implementation Study in 2010. Could mobiles serve the customers reached through the current contract? This is a research question beyond the scope of this paper.
- There must be a saving to Telstra if it did not have to maintain these services. Thousands of Telstra's 5,000 exchanges need to be kept to serve the current contract. Reducing the number of premises to be served would reduce Telstra's costs which could be netted off the gross receipts expected from the current contract to "Keep Telstra whole" and still create a saving to the Commonwealth.

Although the contracts run up to 2032, there is a mandatory 10 year review to be undertaken in 2021 by an independent expert of the technologies and systems used by Telstra to provide the USO STS and Payphones services, to determine if the use of alternative technologies or systems (including by an alternative provider of the USO) would result in cost savings to Telstra (therefore reducing the amount that TUSMA pays to Telstra). The outcomes of this review process are binding. There are mechanisms to deal with any overlap between the geographic areas covered by the review and the NBN long-term fibre footprint. Separately, either party may, at any time, provide the other with a cost saving proposal. Such proposals cannot be unreasonably rejected<sup>44</sup>.

Telstra is the default voice-only provider on the NBN. This is discussed further in Options 3 and 6 below.

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<sup>42</sup> In 2012, the Telecommunications Universal Service Management Agency (TUSMA) became the principal responsible for the USO and entered into contracts with Telstra to deliver the obligations (\$253m p.a. until July 2032). In July 2015, TUSMA was folded into the Department of Communications.

<sup>43</sup> See Telstra website

<sup>44</sup> Ibid.

## 4.2 Option 2

This is the benchmark option positing no USO obligation (apart from the TUSMA contract referred to in the previous option). What would happen? Without a default universal service provider, it is likely that mobile competition could largely satisfy the universal service principles of availability, accessibility, affordability and empowerment. The market will provide, helped by ongoing programmes like Mobile Blackspots.

Of course, mobiles cannot match the 100 percent availability promised with the NBN. Some customers would have to rely on, say, satellite. Under this option, the wholesale satellite service costs the same as equivalent wholesale metro services with the NBN's cross-subsidies supported by the funding arrangements currently being considered by the Bureau of Communications Research. But there is no guarantee that satellite customers would be attractive to retail service providers, after taking account of backhaul costs and the costs of meeting any special service or performance standards that may be imposed for such services. Furthermore, this option risks leaving customers in more remote unprofitable areas with inadequate voice services.

Affordability programmes are probably not required. Prepaid mobiles are already very affordable. If more help is needed, the Safelink programme (Box 7) may be worth considering.

### Box 7 - Safelink

In the USA, the Lifeline programme for low income consumers is funded by the Federal Communications Commission ([FCC](#)) and administered by the Universal Service Administrative Company ([USAC](#)).

Rather than providing a discount or rebate like the existing Lifeline program, [Safelink](#) offers eligible participants a free mobile phone, without contracts or monthly fees, unlimited texts, 500 free minutes for the first 4 months and 250 minutes with unlimited texts for the remainder of the year.

Safelink customers have to be on state or federal support; like SNAP (food stamps) or Medicaid to be eligible. It is also limited to one person per household. Initial eligibility lasts for one year, after which users have to demonstrate that they still qualify.

It is implemented by one provider, TracFone, which is a large no-contract mobile service provider in the U.S. with over 18.8 million subscribers and is a subsidiary of América Móvil. It resells 30 major carriers around the U.S. and has global relationships with major manufacturers such as Motorola, Nokia, LG and Kyocera. Its regular pre-paid tariffs for, say, 300 and 900 minutes are \$29.99 and \$79.99 respectively; with 90 days on both of these.

Sources: websites accessed through hyperlinks above.

Option 2 is attractive simply because nobody has to be nominated as the default retail USO provider. It should not be necessary as the outcomes will look much like what we would expect from Option 4 (mobiles become main delivery platform; but again without any nominated USO provider).

### 4.3 Option 3

This delivers a voice plus data USO obligation over NBN networks.

As discussed earlier, there is bi-partisan support politically to include data in universal service, as demonstrated by the investment in the NBN which is designed to offer both voice and data everywhere.

The nbn will become the default wholesale carrier. Unlike Telstra under the existing USO, the nbn is not also the default retail provider. Initially, Telstra will fulfil the role of retail provider of last resort within the NBN fixed footprint for customers – but only for those who wish to take a voice-only service over the NBN. This commitment applies as a contractual obligation on Telstra to TUSMA. This seems like a temporary measure and ignores data (but see Option 6).

Telstra's voice-only USO role is unlikely to be contested by other fixed providers. That is because, to date, the nbn has not shown much imagination in helping to make access affordable for a basic telephone service. The minimum wholesale price is \$24 pm compared with the \$16 pm that Telstra is currently charging for unbundled local loop in metro areas. Competition for voice-only service will come from mobiles.

It is unlikely that there would be more competition for voice (or voice and data) services in rural and remote areas even though the geographically uniform \$24 pm NBN tariff is about half the unbundled local loop service price for the copper network in rural remote areas.

If you want a broadband service over the NBN, "who are you going to call?" The obvious default retail provider is Telstra, which should not require a subsidy if (and only if) the NBN maintains geographically uniform wholesale tariffs; which is what the BCR study is seeking to support.

An important related point is that network separation could make some customers un-commercial for Telstra. On the copper network, any customer who covers their directly attributable costs is commercial because that customer then makes a contribution to network costs. But, with the NBN, directly attributable costs include network costs for Telstra<sup>45</sup>.

On affordability, the Telecommunications Consumer Protections Code deals with credit management and disconnection, and may need to be revised in the context of the NBN. What the NBN can and should do is provide wholesale pricing to support retail providers and low income customers (see Section 3.3.3).

On accessibility, the NBN refers customers to their retail service provider for accessibility issues and does not provide apps or content.

Finally, how sustainable would delivering the USO over NBN be as an option? If the NBN is privatised how can we ensure that the Statement of Expectations and other things that the company has agreed to in order to support universal service will survive?

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<sup>45</sup> Ian Martin drew this double marginalisation effect to my attention with his RBS note Telco Services: funding the USO on the NBN (17 June 2011).

## 4.4 Option 4

This option switches the delivery of the USO to mobile networks. The best thing about the first era of broadband was *'always on'*. In the next era it will be broadband that is *'always with you'*.

This option does not mean making mobile carriers universal service providers. Competition will drive coverage (aided by continuing support for Mobile Blackspots) and affordability.

With this option, the NBN is less important as an access network (which is predominantly mobile) than as a backhaul network. Whether the mobile device operates over WiFi or over a mobile network (smartphones do both), traffic moves onto the NBN as that is more efficient than using the scarce radio spectrum used by mobile networks.

With respect to coverage, it is possible that mobile coverage is better than STS provided over copper services. The My Broadband <sup>46</sup>quality report mentioned earlier in Section 3.1 says that only 0.318m of the 1.4m most poorly served fixed service customers (categories D and E) have access to 3G or 4G; at October 2013 – over 1 million customers rely on copper for voice services. How much has that changed?

With respect to affordability, Telstra is not the cheapest provider in the market, but the Freedom Plus plan in the pre-paid mobile column of Table 7 is 0.9% of median EDHI; less than what disadvantaged segments were paying according to Table 6.

What about untimed local calls? Calls from mobiles are national. The fact that they are all timed is not an issue for current mobile users whose calls are short relative to fixed voice calls. The May 2010 NBN Implementation Study suggests (p321) providing a *"home-zone"* in which an STS could be provided over a mobile network with untimed local calls offered within a zone corresponding to the user's premises. That may be considered inadequate as the Extended Zones that apply to country areas are very large (See Figure 6 below). But, if voice in future is carried as data, timed calls become redundant as data is not timed.

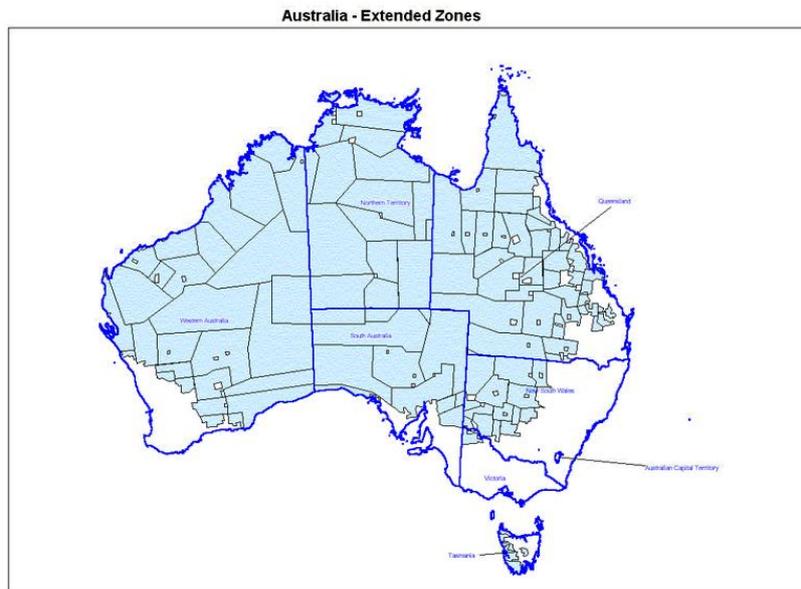
It may be necessary to set standards for the quality of voice calls or ensure other aspects of service to support the four pillars of universal service policy. As noted in Section 3.2.1, the ACMA has powers to achieve this.

This approach has a number of attractions. First, any requirements would apply to several retail service providers. Second, it would promote a contestable market. Third, where it is not contestable (due, say, to lack of coverage), Telstra would become the natural default provider. Fourth, the infrastructure is privately funded (with some direct subsidies for extending coverage and providing ongoing services in unprofitable areas).

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<sup>46</sup> <https://www.mybroadband.communications.gov.au/reports.aspx>

**Figure 6 – Extended Zones**



Source: [ACMA](#)

## 4.5 Option 5

This would confine the USO to voice, as now, but include mobile networks.

It is difficult to see what would be gained by this option. A voice-only USO is no longer socially or politically acceptable. All the other options include both voice and data.

STS affordability measures currently provided by Telstra would need to be expanded to take account of a broader base for delivery of voice services.

## 4.6 Option 6

This option is a safe, technology neutral option broadening the USO to include data and made available across both fixed and mobile networks. This would then need, say, Telstra being nominated as the universal service provider for both voice and data. Why Telstra? This is the safe option because:

- ✓ It is already nominated as the default voice provider on the NBN. But, in becoming the default retail service provider (RSP) for voice and/or broadband it should not be constrained to use the NBN if a more efficient alternative is available.
- ✓ Telstra is already a proven universal service provider ticking all the boxes (availability/accessibility/affordability) with respect to voice services. It is easy to see Telstra's obligations extended to data; which would need the LIMAC safeguards broadened accordingly. This should also include replacing the current definition of standard telephone service with another definition consistent with voice over broadband or mobile.

- ✓ The previous attempt to make the voice USO contestable failed – there were no takers. The Mobile Blackspots programme is contestable but providing new cell sites and towers is much simpler than the expanded USO which will require new consumer safeguards.

Unless Telstra had to price its social tariff below the floor set by NBN wholesale prices, there should be no need to revisit subsidy arrangements with Telstra; only the current TUSMA contract for voice over copper would continue. However, if the NBN de-averaged wholesale prices so that prices in the bush are higher, Telstra would be disadvantaged if retail service pricing continues to be uniform geographically. This is because other retail service providers would not have to serve the bush. It would be better that NBN pricing remains geographically uniform and is supported by the arrangements that the Bureau of Communications Research is to recommend shortly.

Again, all the options above have to be supplemented with affordability and accessibility measures.

## **4.7 Best pick options**

The six options are tested against the universality principles in Figure 7; where LIMAC safeguards have been extended to mobiles and broadband in new Low Income Measures. Option 3 (NBN) is the best in terms of availability alone but relies on retail service providers (RSPs) for two of the four universality principles and is not helping them at all with affordability. Whatever the RSPs do with the NBN is covered in options 2 and 6.

Option 1 is temporary and limited to voice. So, that can be dismissed along with option 5 which is also voice only.

Option 2 (no USO) seems very attractive and is similar in terms of outcomes to options 4 (mobiles) and 6 (technology neutral) because it would probably be driven by mobiles. In Options 2 and 4 no formal designation of any carrier(s) as the universal service provider(s) is required. The desired outcomes could be achieved through obligations on accessibility and affordability imposed by the ACMA under the Telecommunications Act.

Figure 7 – Comparison of the six options

Universality Principles				
Options	Availability	Accessibility	Affordability	Apps/Content
1 – copper status quo	<7%	Due to LIMAC (Telstra only)		N/A
2 – no USO	>90%	ACMA obligations		
3 – NBN USO	100%	See your RSP	Poor	
4 - mobiles	>90% +Blackspots	ACMA obligations		
5 – voice-only fixed/mobile		Low Income Measures		Only mobile
6 – technology neutral		Low Income Measures		

Source: The author

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# About

## **John de Ridder**

John's career has put him at the cutting edge of developments such as universal service costing and the evolution of competition and regulation. He is a former chief economist of Telstra where his 18 year career included a number of roles including broadband and data pricing and USO costing. Since leaving Telstra in 2002, he has consulted to various domestic and international organisations.

He is recognized locally and internationally as an experienced telecommunications economist with expertise in broadband pricing and regulation. Clients have included InfoDev (World Bank), ITU (United Nations), DBCDE (Australia), OECD, APEC and the NZ Commerce Commission.

His econometric analysis of broadband penetration for the OECD was referred to extensively in the Berkman (Harvard) Centre Report to the FCC on US broadband policy. He was also a key player in TransACT's proposal for NBN Mark 1.

Before joining Telstra, John held various positions in Australia and the UK. In Australia he worked as an economist for ICI and as the research manager for IBIS Consulting. In London, he worked for Shell International as an economist and for DRI-McGraw Hill both as a macro-economic forecaster and as a marketer.

## **ACCAN**

The Australian Communications Consumer Action Network (ACCAN) is the peak body that represents all consumers on communications technology issues including telecommunications, broadband and emerging new services.

ACCAN conducts research that drives the fulfilment of its vision for available, accessible and affordable communications that enhance the lives of consumers. ACCAN provides a strong consumer voice, promoting better consumer protection outcomes to industry and government.

ACCAN aims to empower consumers so that they are well informed and can make good choices about goods and services. Visit [www.accan.org.au](http://www.accan.org.au) for more information.

The operation of the Australian Communications Consumer Action Network is made possible by funding provided by the Commonwealth of Australia under section 593 of the Telecommunications Act 1997. This funding is recovered from charges on telecommunications carriers



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