

The cover features a collage of four images. The top-left image shows a person sitting on a red rock ledge using a laptop. The top-right image shows a vibrant rainbow against a blue sky. The middle image is a wide landscape of a river with green banks and a cloudy sky. The bottom image shows a wooden house with a porch, surrounded by trees and a wooden fence.

REGIONAL TELECOMMUNICATIONS REVIEW

FRAMEWORK FOR THE FUTURE

REGIONAL TELECOMMUNICATIONS
INDEPENDENT REVIEW COMMITTEE REPORT
2008

FRAMEWORK FOR THE FUTURE

SEPTEMBER 2008

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ISBN 978-0-642-75397-7

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Senator the Hon Stephen Conroy
Minister for Broadband, Communications and the Digital Economy
Parliament House
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Dear Minister

Together with my colleagues, Alexandra Gartmann, Mark Needham, Bruce Scott and Josephine Stone, I have pleasure in submitting to you the first report of the Regional Telecommunications Independent Review Committee.

In conducting our review we undertook extensive consultations, visiting 20 locations in regional, rural and remote areas between February and May 2008. During this process the Committee was able to hear and discuss the telecommunications issues facing people who live and work in regional Australia. This included individuals, consumer representative groups, diverse industries as well as local, state and territory governments.

The substantial growth in significance of mobile and broadband communication services to regional Australians, along with the impact of the Government's National Broadband Network proposal, provides an exciting opportunity for bold changes to telecommunications policy and legislation to secure equitable access to telecommunications services.

In view of this opportunity, our report recommends a new framework, which will, if adopted by the Government, include mobile, broadband and voice services in universal service arrangements for the first time.

The Committee understands the Government has allocated funds in the Budget to implement its response to our Report. Part 1 of our Report includes a number of recommendations which will make a call on funding. The Committee considers that a figure of 10–15 per cent of the available funding may be an appropriate starting point to implement those recommendations. Beyond this investment in the maintenance and better use of existing services, the Committee recommends that funding be allocated for the implementation of the new framework, which it believes will result in major benefits for regional Australians

We commend our report to you.



Yours sincerely
Dr William J Glasson AO
Chair, Regional Telecommunications Independent Review Committee
5 September 2008

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EXECUTIVE SUMMARY

In this first report of the Regional Telecommunications Independent Review Committee we recommend bold changes to telecommunications policy and legislation. The changes we propose are to ensure ongoing equitable access to broadband, mobile and fixed voice telephony and payphones across the country, and particularly for individuals and businesses in regional, rural and remote parts of Australia.

The existing legislative and regulatory arrangements for universal service are increasingly strained by the importance of mobile telephony and broadband services, the privatisation of Telstra, and the ongoing development of a competitive telecommunications market. With the significant changes likely to occur from the Australian Government's proposed National Broadband Network (NBN) there is now an opportunity to revolutionise the availability and quality of telecommunications services in this country, including all of regional Australia.

Our proposals are based on the belief that competitive markets are best able to deliver telecommunications services. Government interventions should be limited to where this is necessary to ensure service availability.

Advances in technology, the expansion of the variety of telecommunications services available and the ongoing development of services supplied using telecommunications are resulting in more benefits and increased demands and expectations of consumers. As any program to address gaps in adequacy is implemented or further commercial investment is completed, new gaps emerge. Ten years ago the internet was barely on the horizon. Now the internet is essential for business and social use. People in regional Australia are using Facebook to maintain relationships with family and friends no matter where they are located. Workers at remote mines are able to maintain regular contact with their children in town.

The importance of regional Australia and its industries to our overall national wellbeing underscores the importance of adequate telecommunications services to regional, rural and remote parts of Australia. Increasingly, telecommunications services are not only an end in themselves for achievement of equity, but also critical enablers in the equitable availability of other services. We therefore support a policy and regulatory environment that promotes competition,

innovation, and investment in telecommunications for regional areas, supported by effective measures to protect consumers. The ultimate aim of any such approach is to establish fairness or equity for all Australians.

The Committee held public consultations in 20 locations across regional Australia, as well as stakeholder meetings in all state and territory capitals. We also considered more than 220 submissions. The overwhelming majority of these submissions were about mobile voice services and broadband.

In accordance with the terms of reference, we reviewed the adequacy of telecommunications services in regional, rural and remote parts of Australia having regard to whether people in these areas have equitable access to significant telecommunications services that are also available in urban areas. For the purposes of this review, we consider that:

- services are significant if they are likely to have a major impact on people, their communities and businesses in regional, rural and remote areas
- services are equitable if they are available at a standard that is sufficient to meet people's economic, social and cultural communication needs when compared with urban areas, and
- services are adequate when there is equitable access to significant services at reasonable cost, and those services deliver quality and functionality that is fit for purpose, timely, and reliable.

There have been dramatic improvements in telecommunications services in regional Australia in recent years. However, we have found that these services, specifically mobile services and the availability of broadband internet access, are still inadequate.

We sometimes found the task of determining adequacy difficult due to a lack of reliable data. Where feasible, we have identified the need for more robust and more transparent data collection to support future assessments.

The Committee is composed of individuals whose lives thread between remote, rural, regional and urban communities. Consultations reinforced our own experience of the importance of telecommunications services for integrated and fully effective regional, rural and remote communities.

We have taken a two-step approach in our considerations to assess the adequacy of telecommunications services. In the first step, Part One of the report, we assess the significance of telecommunications to the delivery of key services and industries in regional Australia — such as health, education and primary production.

In the second step, Part Two of the report, we consider the current availability of telecommunications in regional areas and assess the adequacy of those services that are significant. We also consider whether people have equitable access to those services compared with urban areas.

The boundaries between different telecommunications technologies and services are blurring, and the relative importance of different services is rapidly changing. To many people, from a young backpacker to a ‘grey nomad’, the internet café may be more important than the payphone.

We discuss backhaul infrastructure and issues surrounding regulation, competition, and consumer protection as they affect the adequacy of services in regional areas.

The third part of the report puts forward a bold new framework that aims to ensure equitable access to telecommunications services for mobiles, broadband, voice and payphones in regional Australia.

SIGNIFICANCE OF TELECOMMUNICATIONS SERVICES TO EVERYDAY LIFE

Consumer expectations are increasing more rapidly than the availability of telecommunications in many areas. Telecommunications, especially mobile and broadband services, now play an important part in everyday life of most people. These services are also critical for enabling access to key services that facilitate the social, economic and cultural wellbeing of people and enable the growth and development of communities and regions as a whole. These services will assist the sustainability of regional areas and provide choice and opportunity to people in regional areas.

Whether a person lives in regional Australia or in urban Australia, services like mobile telephony provide one of the main forms of communications. The importance is reflected in the fact that on average, people spend more than \$600 per person per annum on mobile telephony. Much of this communications activity is simply people engaging and coordinating with family members and friends. The growth of short message services (SMS) as the primary electronic communications for many young people is an example. The growth of the use of broadband internet for news and current affairs is another. This everyday use of telecommunications makes these services very significant. People in regional Australia expect to have the same opportunities as their urban counterparts to use telecommunications services.

Telecommunications play a key role in underpinning social and cultural wellbeing by facilitating greater social inclusion and interactivity. Isolation and displacement are key issues for regional Australia, impacting on the capacity of some regional areas to retain people and, in turn, their future viability.

Broadband infrastructure and the skills to use it have become very important tools for social cohesion and effective participation in the broader economy. Telecommunications at reasonable prices can help address the 'tyranny of distance'.

Broadband internet is a fundamental tool in the delivery of education today. A high level of connectivity is important for regional education applications such as remote two-way visual and audio learning. We are concerned that schools in more rural and remote communities will not have the same access to educational opportunities as other schools.

These connectivity issues affect schools, TAFE institutions and universities. Teachers also increasingly rely on modern telecommunications to learn, keep up to date with teaching methods, and pass on the skills necessary for effective education.

High-speed broadband telecommunications infrastructure and access is also important to effective regional health care delivery. The roll-out of the Government's proposed NBN has the potential to facilitate greater access to e-health applications. These are particularly valuable for remote communities, where high-speed bandwidth can be used to support remote consultations, diagnosis and treatment.

Mobile services enable more effective health care for patients away from health centres. These tools help skilled health professionals deliver high quality care and ease their sense of isolation. Access to appropriate telecommunications is important in attracting and retaining skilled health professionals in regional Australia.

Australians in regional areas place significant importance on effective emergency services. Developments in telecommunications provide great potential to improve emergency response planning, prevention strategies and service responsiveness to emergency situations in regional Australia.

We found some impediments to efficient emergency response in regional areas. Some of these stem from a lack of traveller awareness and preparation when travelling in these regions, but there are also opportunities to enhance emergency response capacity for communities through greater availability of telecommunications and more effective coordination. As with other sectors, there are also opportunities to ensure emergency service providers can obtain training and are supported with appropriate technology in the field.

Indigenous communities need access to culturally-appropriate services to enhance their overall welfare, including community payphones and increased pre-paid telephony options. Education and health outcomes are drivers for 'closing the gap' in these communities and for fostering economic and social development. The use of telecommunications to support these services is particularly important for Indigenous communities.

Governments and communities benefit from the use of telecommunications for improved service delivery. Help and advice can be delivered both faster and cheaper, but adequate rural bandwidth is critical to realising these benefits. In some areas, local governments have difficulty retaining and attracting skilled staff. In many cases, there is potential for the aggregation of demand for infrastructure to support better delivery of government services.

Regional businesses, including primary industry, need access to telecommunications infrastructure and services to compete effectively with urban-based businesses. Isolation from others businesses, consumers and markets, the increasing costs of doing business and other factors such as extreme weather events and climate change are all impacting on the ongoing competitiveness of regionally-based industries. Agriculture and allied businesses are becoming more

reliant on technology, as increased capacity and new applications contribute to business efficiency and opportunities.

Road transport is a significant supply corridor for regional Australia. Telecommunications access has implications for the efficiency of all forms of land transport including road transport in regional areas. The impact of tourism and itinerant workers on regions means decisions on the telecommunications needs of specific regions cannot be based on residential population alone. The resources boom is changing the face of many regional areas. However, it is critical for local communities that they are able to channel some of the benefits from this 'boom' into sustainable outcomes for their region.

We consider there is further potential for increased collaboration between resources industries, local communities and service providers to facilitate shared planning and improved telecommunications infrastructure and services in regional areas.

We conclude that a range of telecommunications services play a crucial role in maintaining and improving the social and economic fabric of society in regional Australia.

ADEQUACY OF TELECOMMUNICATION SERVICES

Mobile services are significant to regional Australians. Terrestrial mobile services are available over nearly all urban areas and usually from multiple providers. This is not the case in regional areas. The management by Telstra of the switch-over from CDMA to a 3G network was a significant issue raised with the Committee. This in itself underscored the importance of mobile telecommunication services to regional Australia and the fact that a lack of infrastructure competition exposes regional Australians to substantial risks that are not faced by people in urban Australia. We welcome the recent announcements of Optus and Vodafone to extend coverage of their terrestrial networks further into regional Australia. We also welcome the entry of mobile satellite provider Thuraya to the regional mobile phone market.

In our view, mobile telecommunications services are not equitably available in many parts of regional Australia. We identified the following issues:

- a lack of any ongoing assurance of service availability — the current Australian Government initiatives addressing inequitable access tend to be short term
- a limited geographic terrestrial mobile phone coverage in regional areas, in particular for hand-held mobile phones — an issue exacerbated by aspects of the promotion of the extent of coverage, and
- high prices and service difficulties with mobile satellite services — mobile satellite services do provide Australia-wide coverage, but there is a question whether this service is currently adequate.

Broadband is significant to people and businesses in regional parts of Australia. Broadband services are available in nearly all urban areas through commercial provision without government intervention. We note the substantial changes in the market and take-up of broadband, and the positive impact of Australian Government programs like the Australian Broadband Guarantee (ABG). As a result of these programs hundreds of thousands of people in regional Australia have been able to purchase a broadband service. The NBN announced by the Australian Government will also have a significant impact on future adequacy.

Despite the discernible benefit of Australian Government programs, we consider that broadband services remain inadequate in that:

- there is no ongoing assurance of access to broadband services on an equitable basis, and
- the threshold services available under programs like the ABG will need to be consistently reviewed to ensure they keep pace with service improvements in urban areas.

Voice services remain significant. Generally there is equitable access, although there are concerns regarding service restoration following faults, and the relative lack of competition.

Payphones also remain significant to people in regional parts of Australia, although the relative importance of payphones is declining (along with their use). However, there are opportunities to improve current arrangements by involving local communities, particularly local governments, and fostering increased competition by enabling all providers to bid for the public subsidies currently paid to support payphone services.

The availability of adequate backhaul, and its price, impacts on the availability, type and price of telecommunications services, such as terrestrial mobile services and broadband, that can be delivered to a community. Some providers that are willing to service the local access needs of a community are unable to do so because backhaul prices inhibit competition for retail services. Providers do not have access to sufficient information about aggregate demand, for example, from all levels of government. Similarly, the Australian Government does not have readily available information on where or how much backhaul transmission is available. This makes it difficult for network builders to effectively plan backhaul investment.

Competition in telecommunications services in regional markets is not as intense as in urban areas. Regulatory decisions about urban markets can have far-reaching impacts on regional markets.

There is limited consumer awareness of alternative telecommunications providers or complaint processes in regional Australia. The current regulatory arrangements are fragmented and do not support transparency and consumer understanding.

NEED FOR A NEW FRAMEWORK

The transition from a regulatory regime focused on voice telephony to one covering a wide range of possible services, including text, images, video and Voice Over Internet Protocol (VOIP) raises a number of key policy and regulatory issues. These issues were raised in regional consultations, and they clearly have national relevance. Current arrangements often confuse consumers and frustrate industry. There is a need for a balanced approach that will promote industry innovation while maintaining consumer safeguards.

In particular, we found that the current Universal Service Obligation (USO) arrangements are not working well. Nearly all stakeholders are dissatisfied with them and they are neither practical nor functional for modern telecommunications.

Despite the success of market reforms, there remains a need for certainty and assurance of ongoing future access to telecommunications services. This need for certainty now applies not only to fixed voice and payphone services but increasingly to mobile and broadband services. A new approach is needed.

We recommend an ongoing commitment by the Australian Government to a set of standards that specify the services that should be available to all Australians — the ‘Communications Services Standard’ (CSS).

The CSS would allow many consumer protection measures to be incorporated into a simpler framework that provides both industry and consumers with a secure footing for their investments and expectations.

The Australian Government’s primary device for ensuring this equitable delivery of telecommunications services since Federation was its ownership of the national telecommunications network. Competition reforms and privatisation have changed the way the Australian Government can and should act to make this assurance.

The Australian Government has relied upon a mix of obligations placed on the carriers and various programs to meet identified shortfalls in service availability.

The NBN is a very welcome initiative, but some communities will not be served by the NBN, and many communities will remain inadequately served with hand-held mobile coverage.

The Committee’s bold new approach requires significant policy changes such as:

- implementing the CSS framework for all Australia including, for the first time, mobiles and broadband services
- make and encourage the necessary investments to support the successful implementation of the CSS
- improve market information and consumer awareness, and
- ongoing development of applications and peoples’ skills to better utilise telecommunications.

THE FUTURE

Telecommunications are essential for the wellbeing of all Australians, and particularly for those in regional areas. In our view, advances in telecommunications technologies and market conditions have realised substantial benefits for regional areas. However, more work needs to be done if regional Australia is to continue to be a competitive and attractive place to live and work, and if our nation is to continue to grow and prosper.

Individuals, businesses and communities in regional Australia should be able to access the equivalent telecommunications services and prices as their urban counterparts, on prices and terms that meet their current and future needs.

Infrastructure is critical in supporting adequate telecommunications services into the future. However, infrastructure alone will not deliver the outcome. We have identified initiatives to facilitate effective use of infrastructure and services, to ensure the human and community capacity to leverage the facilities available, now and into the future.

There is an opportunity to improve infrastructure in conjunction with the Australian Government's NBN initiative and in the lead up to the implementation of the new framework proposed in this Report which will ensure services are available on an equitable basis to all Australians.

We note the Minister for Broadband, Communications and the Digital Economy joined other Organisation for Economic Co-operation and Development (OECD) information and communications technology (ICT) Ministers in Seoul in June 2008 to declare their determination to work together to promote ubiquitous access to ICT networks and services, enabling widespread participation in the internet economy. They declared a shared vision that the internet economy, supported by related communications technologies will strengthen our capacity to improve the quality of life for all citizens.

We share these views.

We commend our report to the Australian Government.

William Glasson AO

Alexandra Gartmann, Mark Needham, Bruce Scott and Josephine Stone AM

5 September 2008

SUMMARY OF RECOMMENDATIONS

The Committee recommends that:

- 1.1.1: The Australian Government fund initiatives to make training, support and appropriate applications available to people in regional Australia to ensure equitable access.
- 1.2.1: The Australian Government work with state, territory and local governments to ensure that schools in regional Australia have the same access to broadband and information and communications technology services that will be delivered by the Digital Education Revolution and the Fibre Connections to Schools Initiative to urban based schools.
- 1.2.2: The Australian Government facilitate greater access to educational bandwidth for regional tertiary institutions. This could include promoting access for Technical and Further Education institutions to networks such as the Australia's Academic and Research Network.
- 1.2.3: The Australian Government work with state, territory and local governments to:
 - a. address the higher costs of telecommunications for students in regional areas, and
 - b. promote initiatives that support the innovative use of broadband for specific education and training purposes.
- 1.3.1: The Australian Government work with state and territory government health sectors, as well as the private health sector, to maximise the opportunities for improved access to enhanced health services arising from initiatives.
- 1.3.2: The Australian Government broaden the scope of the current Satellite Phone Subsidy Scheme to make it more accessible to community-based and not-for-profit health care workers and emergency service volunteers.
- 1.4.1: The Australian Government fund initiatives and seek matching contributions from state and territory governments, to:
 - a. improve telecommunications facilities for emergency service organisations
 - b. train and support emergency service personnel, including volunteers, in the use of telecommunications, and
 - c. facilitate awareness raising for the general population and travellers in particular (including domestic and foreign tourists) on the limitations of terrestrial mobile phone services and the most effective means to call for help in an emergency.

- 1.5.1: The Australian Government expand the implementation and maintenance of community phones, including pre-paid options for people in remote Indigenous communities.
- 1.5.2: The Australian Government work with state, territory and local governments to implement identified telecommunications solutions to deliver services of significance to remote Indigenous communities. These services include appropriate culturally targeted awareness initiatives, education initiatives and technology support to improve broadband take-up and usage.
- 1.6.1: The Australian Government facilitate greater involvement of local governments in the design and delivery of initiatives to promote greater access to telecommunications infrastructure in their area.
- 1.6.2: The Australian Government work with state, territory and local governments on promoting greater access to training in information and telecommunications technologies for people in regional and remote areas.
- 1.7.1: The Australian Government work with state and territory governments to ensure that infrastructure is capable of supporting adequate services for business use in rural and remote areas.
- 1.8.1: The Australian Government work with state, territory and local governments to better incorporate the roll-out of telecommunications infrastructure, such as the roll-out of optical fibre during railway extensions, and upgrades to services and the planning of other major infrastructure developments in regional areas.
- 1.9.1: The Australian Government work with state, territory and local governments to better coordinate the activities of resource companies and telecommunication service providers to facilitate shared planning and provision of telecommunications and services in regional areas.
- 2.1.1: Australian Government programs to improve mobile services in regional parts of Australia should incorporate:
- a. if necessary, once the new framework is implemented, hand-held coverage in community service centres and towns and well-used roads and industries or regions specifically targeted according to the criteria in Table 3.1.1,
 - b. a reduction to the effective price of mobile satellite phone services to that similar to terrestrial mobile phones (i.e. the current satellite phone subsidy scheme should continue and be expanded at least until the implementation of the new framework described in Chapter 3.1, and probably continue beyond that), and
 - c. where necessary, actions to encourage the use of external antennae.

- 2.1.2: The Australian Government request the Australian Competition and Consumer Commission inquire into the merits of mandated terrestrial inter-carrier roaming in single carrier coverage areas in Australia to enable consumers to have a choice of provider.
- 2.1.3: The Australian Government take the necessary action to improve consumer understanding of hand-held mobile coverage. At a minimum, this must include a requirement for the telecommunications provider to consistently, clearly and accurately inform consumers, at time of purchase, of hand-held land mass or geographic coverage.
- 2.2.1: In accordance with the arrangements and criteria set out in Chapter 3.1 — A New Framework, the Australian Government:
- a. introduce measures to provide enhanced broadband services to premises that will not be served by the National Broadband Network (NBN) and these be delivered in an equitable timeframe, and certainly prior to the completion of the NBN, and
 - b. provide interim solutions until the NBN is accessible in regional areas. The solutions provided should maintain, and improve on, the contemporary comparisons with urban areas.
- 2.2.2: The Australian Government work with industry to:
- a. make service provider offerings to consumers easily comparable and easy to understand, and
 - b. assist in the development, availability, and awareness of applications for broadband provided over satellite.
- 2.2.3: The Australian Government monitor the availability of public internet access services and explore the opportunities in future frameworks for public internet access services.
- 2.2.4: The Australian Government engage providers and other relevant parties to improve the quality and provision of statistics on broadband usage, service availability, and needs in regional, rural and remote areas.
- 2.3.1: The Australian Government should, until the Competition Service Standard (CSS) is implemented:
- a. strengthen the Customer Service Guarantee (CSG) for repairs to fixed services in rural and remote areas, including replacing ‘working days’ with calendar days in the CSG repair timeframes, and
 - b. tighten the Mass Service Disruption (MSD) declaration criteria to ensure the exemption only applies when specified objective criteria, such as are used for meteorological, insurance industry and emergency declaration standards, are met.

2.4.1:	The Australian Government, in conjunction with the CSS implementation, consider a payphone subsidy program which allows all payphone providers to bid for funding on an open and transparent basis.
2.4.2:	The Australian Government encourage and enable local councils to play a stronger role with regard to the location and removal of payphones in their area.
2.5.1:	The Australian Government should ensure effective open access arrangements to backhaul services, including to backhaul services rolled out as part of Australian Government funding programs.
2.5.2:	In ensuring open access to backhaul services funded through Australian Government programs, the Australian Government require the provision of undertakings on the terms and conditions for third party access to backhaul, rather than solely relying upon commercial negotiation and dispute resolution.
2.5.3:	The Australian Government <ul style="list-style-type: none"> a. regularly collect and prepare records of backhaul infrastructure for use by other Australian Government agencies for public policy purposes, and b. assess the costs and benefits of making this information available to relevant market participants.
2.5.4:	The Australian Government explore with state, territory and local government opportunities for greater coordination of their telecommunications purchases in regional locations that result in additional backhaul infrastructure to regional communities.
2.5.5:	The Australian Government work with state, territory and local governments and commercial entities to facilitate access to backhaul transmission not currently utilised, for the benefit of local communities.
2.5.6:	In accordance with the arrangements proposed in Chapter 3.1, the Australian Government identify locations without sufficient backhaul infrastructure to meet the needs of communities. Following the principles proposed by the Committee in Chapter 3.1 the Australian Government, where necessary, develop suitable policies or programs to facilitate investment in new or enhanced open access backhaul infrastructure.

2.6.1:	The Australian Government require the Australian Competition and Consumer Commission (ACCC), in making a declaration, revocation or exemption determination for a defined geographic area, have regard to the impact in regional Australia of its decisions.
2.6.2:	In conducting future spectrum auctions, the Australian Government give consideration to: <ul style="list-style-type: none"> a. adding 'use it or lose it' provisions in the licences in regional areas, or b. including providing for access to radio-communications spectrum in appropriate legislation.
2.6.3:	The Australian Government consider industry structure, including the costs and benefits to regional consumers of requiring a greater degree of separation between network and retail operations of telecommunications providers.
2.6.4:	The Australian Government, in any consideration of industry structure, inquire into the merits of legislation to provide for court ordered divestiture of market participants where this is in the public interest as a means of improving access to telecommunications services at reasonable prices and improving choice.
2.7.1:	The Australian Government must include appropriate strategies to communicate relevant information to people in regional Australia when considering new consumer protection or regulatory initiatives.
2.7.2:	The Australian Government encourage and, if necessary, require industry to prepare and consider community impact statements: <ul style="list-style-type: none"> a. prior to the withdrawal of existing services, or b. with the introduction of new technologies or services which result in a transition to new services, and c. for rural and remote users in particular, those in the Extended Zones.
2.7.3:	The Australian Government undertake and publish evaluations of the impact and effectiveness of consumer awareness programs for telecommunications.

3.1.1: The Australian Government develop a new framework to provide an assurance of ongoing access to voice, mobile, broadband and payphone services to replace the existing USO legislation. The legislative framework provide for:

- a. The Minister to determine the relevant standards — CSS. The CSS is to include standards for voice, broadband, mobile phone and payphone services.
 - (i) The voice standard must include internationally recognised voice quality measures.
 - (ii) The broadband standard must be equitable with services delivered by the NBN.
 - (iii) The mobile standard must be for hand-held mobile phones.
 - (iv) The payphone standard must include objective criteria for access to payphones and, in developing this standard, consideration needs to be given to whether a standard is needed for public internet access.
- b. The RTIRC to be consulted on proposed changes to the standards.
- c. The Australian Government to develop, publish and implement a ‘plan of measures’ to ensure that all individuals and all small businesses can purchase services that meet the CSS, wherever they live or work in Australia, on an equitable basis.
- d. An independent body, not subject to Ministerial direction, be required to conduct an audit at least every three years on the effectiveness of the Australian Government’s ‘plan of measures’ in ensuring communications services meeting the standards are available to be purchased by all, and this audit be tabled in Parliament.

3.1.2: The new framework is to be in place on or before 30 June 2013.

3.1.3: The Australian Government implement suitable arrangements ensuring people in the Extended Zones are able to continue to access services on at least the same conditions applying under the Extended Zones Agreement from the time that Agreement ends until the implementation of the CSS.

3.1.4: The Australian Government provide a mechanism, simple for individuals and small businesses to use, to address and resolve service inadequacy issues that may arise under the new framework. At a minimum, the mechanism provide that:

- a. If consumers have been unable to obtain access to services that meet the standards, then the prospective consumer should receive advice of services available. If no services are available, for the Minister to be informed.
- b. If individual instances of failure to access a service that meets the standards are found and not resolved, then a report detailing those instances is to be prepared and published annually and within the first quarter of the following year.
- c. If a consumer is refused access to a subsidy or other schemes that are part of the Australian Government's 'implementation plan' for the CSS, and the consumer disputes that decision, then that decision should be reviewable.

3.1.5: The Australian Government restructure the Telecommunications Industry Ombudsman (TIO) scheme to provide for the TIO to appropriately undertake the consumer complaint mechanism for the new framework.

3.1.6: The Australian Government provide adequate funding to ensure the outcomes of the recommendations in Part One are achieved.

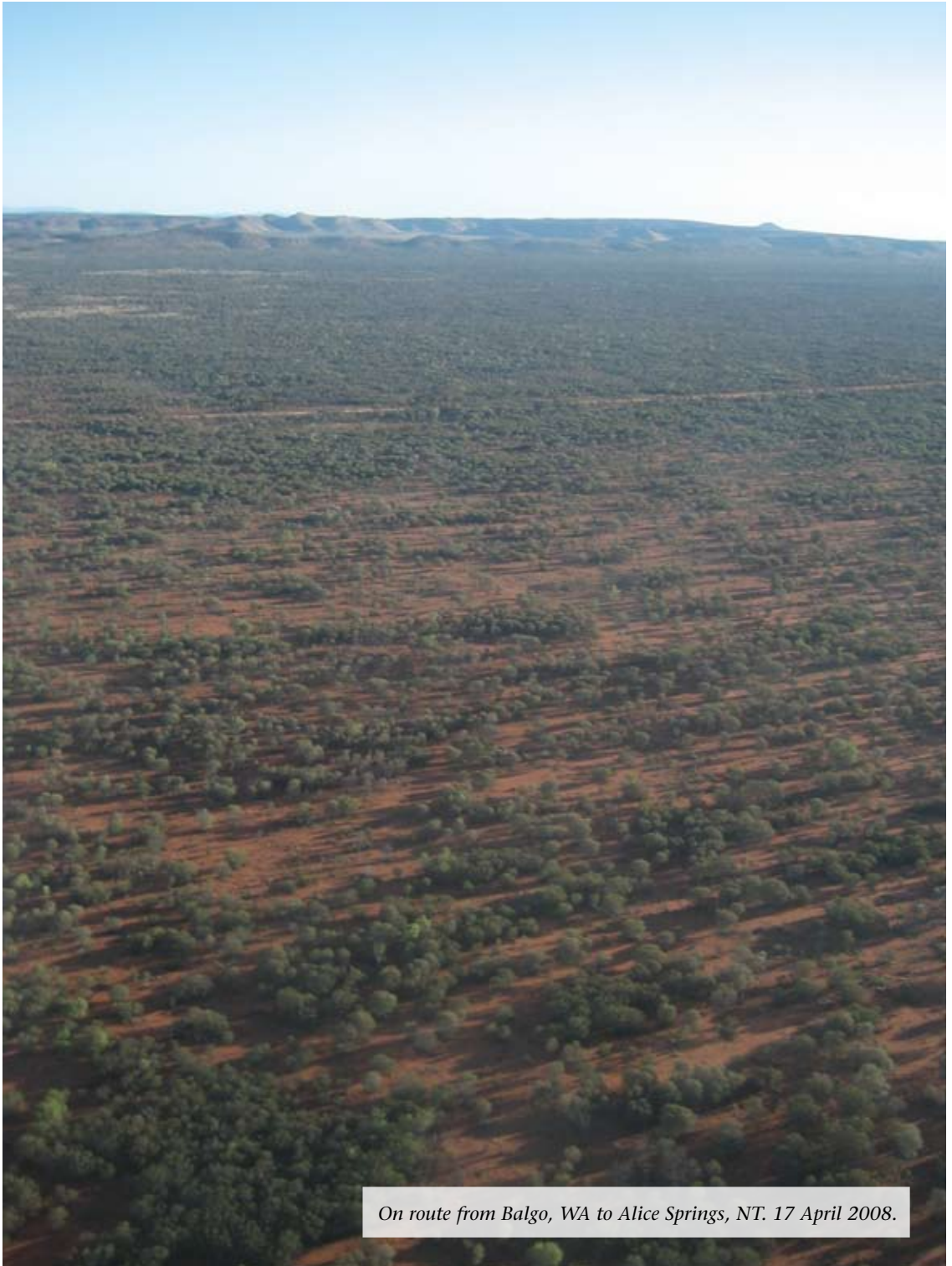
3.1.7: The Australian Government, in the lead up to the introduction and implementation of the CSS:

- a.
 - (i) obtain the necessary information on infrastructure needed to support services to be available under the CSS
 - (ii) engage in a consultative process to develop the initial standards for the CSS as defined in recommendation 3.1.1(a)
 - (iii) obtain information on the likely utilisation or demand for infrastructure, and
 - (iv) obtain estimates of costs
- b. by 30 June 2013, take the necessary action for infrastructure improvements to occur in regional Australia to support the CSS with a holistic approach, and that any expenditure of funds is in accordance with the priorities and criteria set out in table 3.1.1, and
- c. ensures the process outlined in 3.1.7(a) begins within three months of the Government's response to this Report, or within three months from the date the NBN contract has been awarded, whichever is the earlier.

- 3.2.1: The Australian Government provide continuing support to the Committee to:
- a. enable it to effectively conduct its review processes
 - b. consult the Government on the implementation of the Government's response to the Committee's previous report, and
 - c. meet at least bi-annually with the Department and other agencies to ensure information requirements for the next review are achieved.

INTRODUCTION





On route from Balgo, WA to Alice Springs, NT. 17 April 2008.



BACKGROUND TO THE REVIEW

As part of the legislative changes preceding the sale of the third tranche of Telstra in 2005, the Parliament of Australia established the Regional Telecommunications Independent Review Committee (RTIRC).¹ The Committee was established to assess the adequacy of telecommunications in regional, rural and remote parts of Australia and provide a report to government, including recommendations for areas of possible action.

This was a response to the 2002 Regional Telecommunications Inquiry which recommended regular reviews of telecommunications services in regional, rural and remote Australia, to ensure that telecommunications services are ‘available equitably across Australia’ with appropriate funding and monitoring to support these activities.²

The Committee comprises chair, Dr Bill Glasson AO, and members Ms Alexandra Gartmann, Mr Mark Needham, Councillor Bruce Scott, and Mrs Josephine Stone AM.

TERMS OF REFERENCE

The terms of reference for the Review are contained in legislation, as follows.³

The RTIRC must conduct a review of the adequacy of telecommunications services in regional, rural and remote parts of Australia.

1. In determining the adequacy of those services, the RTIRC must have regard to whether people in regional, rural and remote parts of Australia have equitable access to telecommunications services that are significant to people in those parts of Australia and currently available in one or more parts of urban Australia.
2. In conducting the review, the RTIRC must make provision for public consultation and consultation with people in regional, rural and remote parts of Australia.
3. In conducting the review, the RTIRC must have regard to any policies of the Commonwealth Government notified to it by the Minister for Broadband, Communications and the Digital Economy. The RTIRC may also have regard to other matters it considers relevant.
4. The RTIRC must prepare a report of the review and give it to the Minister. The report may set out recommendations to the Commonwealth Government.

5. In formulating a recommendation that the Commonwealth Government should take a particular action, the RTIRC must assess the costs and benefits of that action. This does not prevent the RTIRC from taking other matters into account in formulating a recommendation.

Therefore in determining adequacy the Committee first sought to identify telecommunication services of significance, and then determined whether there is equitable access in regional areas.

In formulating its recommendations, the Committee must assess the costs and benefits of the actions proposed.

THE ROLE OF REGIONAL AUSTRALIA

The Review focuses on the adequacy of services in regional, rural and remote Australia. This includes people in smaller, more remote communities as well as the more densely settled farming communities in the south east and south west of the continent. It also includes people living in remote locations — these range from large mine sites, through primary industry centres and remote Indigenous communities.

The Committee considered adopting definitions of the various terms, but decided the term 'regional, rural and remote' reflects the variety of circumstances that exist in these non-urban areas. When these areas are being referred to in aggregate, the more succinct term 'regional' is used. This does not imply the same circumstances apply to all citizens and businesses in all parts of non-urban Australia. Where appropriate other terms are used. In particular, 'remote' refers to communities of varying sizes that are not close to other population centres.

In conducting its inquiry, the Committee was particularly mindful of regional Australia's role in the national landscape. This acts as a framework for the consideration of significance. While Australia no longer 'rides on the sheep's back',⁴ regional Australia contributes 65 per cent of Australia's export income.⁵ The remote areas of the country constitute 85 per cent of the land mass but house only 2.3 per cent of the population.⁶

Between 2002 and 2007, many of the more remote areas reported a significant decline (greater than 3 per cent) in population — a sample survey showed almost a third of people indicated economic considerations as their reason for moving.⁷



Reverend John Flynn observed that people would not move to the inland of Australia to create communities in support of the agriculture and mining industries developing there without access to adequate services. This motivated him to establish the Royal Flying Doctor Service. Today, telecommunications is a critical element in managing and delivering health services (just as the HF radio was at the start of the 20th century). Moreover, telecommunications services are increasingly needed in their own right, as they play a multi-faceted role in all dimensions of regional life.

Regional Australia is not simply farming centres or mining sites. Communities are the building blocks of regional Australia, and their sustainability relies on access to services and opportunities that are significant to their needs. They are the core service centre for their inhabitants and surrounding regions.

Without access to infrastructure and these services, regional communities, businesses and individuals find social equity and opportunities literally out of reach. This has implications for the ongoing sustainability and future viability of regional communities and parts of regional Australia more generally.

The Committee recognises the significant contribution of regional Australia to the social and cultural identity and diversity of the nation as a whole. Our regions have a fundamental role in Australia's broader national framework. If regional areas are left behind, this will have ongoing implications for Australia's international competitiveness and standing.

The Committee understands the term 'people' in the terms of reference to refer to individuals and various corporate forms.⁸ However, at times it is important to distinguish between the roles of people in respect of policy. There are three separate roles worthy of distinction: consumers, customers and citizens.

The word 'consumers' can refer to people who are (or could be interested in) acquiring a particular product or service, but is sometimes used to describe the subset of that group who are residential or personal consumers (that is, distinct from business consumers). To avoid that confusion 'end-users' (in keeping with the telecommunications legislative usage) is used at times to refer to the economic sense of 'consumers'.

'Customers' are potential or actual consumers for a product or service. They are a subset of consumers.

'Citizens' refers to the role of people in their civil setting. Citizens may have an interest in telecommunications policy beyond their role as consumers. For example, citizens have an interest in the availability of communications services to the other services they rely on — that is, health, education and emergency services. In addition government programs⁹ operate to give citizens the ability to be consumers. Where appropriate, the distinction between end-users and citizens will be made in the report.¹⁰

The Committee has framed its recommendations with a view to making a permanent and significant difference to the way regional Australia is treated in telecommunications policy.

THE ROLE OF GOVERNMENT

All levels of Australian government have long recognised the special place regional Australia plays in our economy and in our nation's character. Regional and rural Australians have a lifestyle that has both positive and negative aspects. For example, smaller populations can allow the development of a stronger sense of community but higher education opportunities are more limited.

Governments' primary role is to achieve social or equity objectives for the community. Government use of public funds to support education, health and defence is an example.

Governments also have an important role to improve the operation of markets, including where there is market failure. For example, markets would not operate without property and other laws, such as contract law. Markets will generally produce better outcomes for society when governments improve information flows, control monopolies, and encourage investment in public goods. Governments also need to take the necessary action to address 'externalities', such as business transactions that impose costs on people not part of the transaction. Pollution is an example.

In some cases, market forces will produce socially desirable and equitable outcomes. In other cases, the market, even if operating efficiently, will not make available goods or services needed by people in a particular area. The desirability for governments to address such a problem is fundamentally a social or equity issue and not an economic concern about the efficient operation of markets.



Where the Government intervenes, it can do so through a number of different forms:

- direct delivery of government services — governments remain involved in direct provision of services in health, education, policing and defence. However, governments are increasingly moving away from direct service delivery for utilities, such as electricity and telecommunications
- legislation and regulation — there are many examples where laws and regulations are used to achieve socially desirable outcomes that the market would not deliver. For example, laws prohibiting the trafficking of people, prohibiting certain drugs, and protecting private property. However, regulations can be difficult to design and may have some negative consequences. They can impose unnecessary costs on business (and hence consumers). There can be mistakes or problems with laws and regulations and some entities may avoid them. The Committee is aware that the telecommunications industry is heavily regulated and that the current regulatory regime may not be producing the best outcome for society
- subsidising others to provide services — this can result in beneficial outcomes. An example relevant to telecommunications is the many thousands of people in regional Australia who have purchased a broadband service under the Australian Government's ABG. However, when governments use public funds they need to take into account the competing call on government funds from other areas of government service delivery and the impact on the community of raising those funds through taxation, and
- other activities such as taxation or providing leadership and guidance — an example is inflation targeting where Australian Government statements influence the market. In 2000, the Australian Government stated its desire that the telecommunications industry should share mobile towers to reduce the number of towers being built. The industry responded without the need for any further intervention.

CONDUCT OF THE REVIEW

As required by the terms of reference, the Committee attempted to consult as widely as possible. This included industry, governments, consumer representative groups and the general public.

The Committee consulted through a three-stage process:

A discussion paper providing an overview of the Review and possible issues for consideration, and calling for submissions to the Review, was released in September 2007. The closing date for submissions to be received prior to consultation meetings was 7 December 2007. However, the Committee continued to accept submissions until August 2008. A list of submissions received is included in Appendix A. The submissions are also available on the Committee's website at www.rtirc.gov.au

- In a broad regional consultation program, the Committee travelled to regional, rural and remote areas between February and May 2008. Interested parties in 20 venues across regional Australia were able to give their views about the adequacy of telecommunication services. An outline of the consultation program is in Appendix B.

The regional consultation program was further informed with additional meetings with carriers and vendors, state and territory governments and key stakeholder and community organisations. An outline of the consultation program is in Appendix B.

In formulating its recommendations, the Committee assessed the costs and benefits of the actions proposed. The Committee acknowledges that additional cost/benefit analysis may need to be undertaken by the Government in determining its response to the recommendations.

OTHER INITIATIVES CURRENTLY UNDERWAY

In conducting this Review, the Committee must have regard of other initiatives and processes currently underway, as directed by the Minister. The Committee received no such formal direction from the Minister. However, the Committee was particularly aware of the Universal Service Obligation Review and the plans for a National Broadband Network (NBN).

In addition, the Committee was also aware of other relevant government activities. These included:

- the 'Closing the Gap' announcement in the 2008–09 budget¹¹
- the 'Digital Education Revolution' suite of programs,¹² and
- the 'Social Inclusion Agenda'.¹³

The Universal Service Obligation Review

On 27 June 2007, the Government commenced a review of the USO. The review would examine the architecture of the universal service regime and the most effective way to deliver universal services to consumers. The review would also consider whether the load is being shared equitably by industry. The Committee has had access to the public submissions on the USO review.¹⁴

National Broadband Network (NBN)

As part of its 2007 election commitments, the Australian Government intended to make available \$4.7 billion to facilitate the construction of the NBN.

On 11 March 2008, the Minister for Broadband, Communications and the Digital Economy Senator Stephen Conroy announced the panel of experts¹⁵ to assess proposals to build the NBN. On 11 April 2008 he announced the release of the request for proposals (RFP).¹⁶ In the release the Minister said:

The RFP details the scope of the National Broadband Network, which will:

- *deliver minimum download speeds of 12 megabytes per second to 98 per cent of Australian homes and businesses*
- *have the network rolled out and made operational progressively over five years using fibre-to-the-node or fibre-to-the-premises technology*
- *support high quality voice, data and video services including symmetric applications such as high-definition video-conferencing*
- *earn the Commonwealth a return on its investment*
- *facilitate competition in the telecommunications sector through open access arrangements that allow all service providers access to the network on equivalent terms, and*
- *enable uniform and affordable retail prices to consumers, no matter where they live.*

In its considerations, the Committee has been aware of the Government's objectives, as specified in the request for proposal. However, the Committee notes that exactly which premises will be served by the NBN, and when, will not be known until final negotiations with the successful party are concluded.

The Committee noted two provisions in the request for proposal. These included:

- In Clause 1.5.5 — “Proponents should indicate the extent to which Proposals are able to prioritise areas that cannot currently access minimum speeds of 12Mbps”. The Committee notes this provision and is hopeful that proposals will meet this requirement and build beyond the immediate urban centres.
- In Clause 1.5.16 — “If a Proponent proposes to supply both wholesale and retail services, it should demonstrate what structural measures or models it proposes be put in place and maintained to prevent inappropriate self-preferential treatment, and ensure that effective open access is achieved on the terms required by the Commonwealth.” The Committee notes this provision and also that public consultations expressed support for further structural reform.

The Government also called for submissions on the regulatory arrangements that might apply to the NBN and solutions for those areas not served by the NBN. The Committee was able to review these submissions prior to concluding this report.

STRUCTURE OF THE REPORT

The report is broken into three parts. The first deals with the question of the significance of telecommunications to people in regional, rural and remote parts of Australia. The second addresses the question of the adequacy of equitable access to significant telecommunication services. The last part recommends future arrangements to address service adequacy and future Reviews.

It is becoming increasingly difficult to refer to services by type as different services start becoming available over the same technology. For example, data services capable of supporting a high-speed internet connection can be provided over a mobile network, while a high-speed internet service can also be used for voice.

Services could be described by first distinguishing between voice and data services. Voice means communication between people speaking and hearing with a simple device and is distinguished from data which involves machines.

Within voice services there is a major division between mobile and fixed services. Fixed voice services can be further divided between private and public, the latter being familiar payphones. The same categorisation can occur for data where there are mobile and fixed services, and within the fixed category there are private and public, for example, internet cafes and the provision of internet access in libraries and other community access points.

While this provides a more complete view of the services that can be available, in its consultations services were described using the four more traditional service categories of mobiles, broadband, voice and payphones.

Endnotes

- 1 The *Telecommunications (Consumer Protection and Service Standards) Act 1999* was amended to include a new Part 9B.
- 2 Regional Telecommunications Inquiry, recommendations 9.1–9.6, p.307.
- 3 *Telecommunications (Consumer Protections and Service Standards) Act 1999*, ss158P and 158Q.
- 4 Australian Bureau of Statistics, *Year Book Australia*, 2003.
- 5 Australian Bureau of Statistics, 3218.0 — Regional Population Growth, Australia, 2006–07.
- 6 Bureau of Transport and Regional Economics, *About Australia's regions 2008*, Department of Infrastructure, Transport, Regional Development and Local Government, Canberra, 2008, pp.2–5.
- 7 Bureau of Transport and Regional Economics, *About Australia's regions 2008*, Department of Infrastructure, Transport, Regional Development and Local Government, Canberra, 2008, pp.2–5.
- 8 In the same way as the term 'person'.
- 9 For example, the Universal Service Obligation or the Australian Broadband Guarantee.
- 10 This distinction between citizen and consumer is made clear in the UK Communications Act, which specifies the duties of OFCOM at s3(1) as:
'It shall be the principal duty of OFCOM, in carrying out their functions:
(a) to further the interests of citizens in relation to communications matters; and
(b) to further the interests of consumers in relevant markets, where appropriate, by promoting competition'.
- 11 The Hon Jenny Macklin, Minister for Families, Housing Community Services and Indigenous Affairs. Ministerial statement. *Closing the Gap between indigenous and non-indigenous Australians*, 13 May 2008 www.budget.gov.au/2008-09/content/ministerial_statements/html/Indigenous.htm
- 12 Australian Government, Department of Education, Employment and Workplace Relations www.digitaleducationrevolution.gov.au/ accessed 4 August 2008.
- 13 Australian Government, Social inclusion Unit www.socialinclusion.gov.au/ last accessed 4 August 2008.
- 14 Senator the Hon Helen Coonan, Minister for Communications, Information Technology and the Arts, Telco Red Tape Reduction, media release, Canberra, 27 June 2007.
- 15 Senator the Hon Stephen Conroy, Minister for Broadband, Communications and the Digital Economy, Government Announces Panel of Experts to Assess National Broadband Network Proposals, media release, Canberra, 11 March 2008.
- 16 Senator the Hon Stephen Conroy, Minister for Broadband, Communications and the Digital Economy, Government Invites National Broadband Network Proposals, media release, 11 April 2008.

SIGNIFICANCE



Telecommunications are increasingly relied upon and used in people's everyday lives: in keeping in contact with family and other social interactions; and in commerce and community activities. Telecommunications are also increasingly used by other services such as education and health which improve the social, economic and cultural wellbeing of people in regional areas and enable the growth and development of communities and regions as a whole. Fundamentally, the provision of these and other services are critical to the sustainability of regional areas and enabling choice and opportunity.

Regional areas are typically characterised by distances between centres and often difficult terrain. This 'tyranny of distance', together with comparatively low population density, affects the sustainability of market-driven services.

In the Committee's view, telecommunications play a critical role in supporting participation in everyday life, society and the economy for regional communities.

In this part of the report we assess the role of telecommunications in regional communities, including:

- family life, everyday activities, cultural, leisure, artistic, social and other community-based activities
- health, education, emergency and public services
- industry and commerce, including land transport, and
- the special circumstances of Aboriginal and Torres Strait Islander peoples.



Over Mildura, Victoria. 13 March 2008.

CHAPTER 1.1 — SOCIAL INCLUSION

INTRODUCTION

*We used to socialise at the local hall dances. Now there are fewer of us and dances are not held. We socialise using mobile phones, email and internet. It is the modern dance.*¹

The way we socialise and interact changes as new communications technologies emerge. Telecommunications services and associated skills are essential for social inclusion in modern society, as is the ability to access and use the latest technology developments.

The telephone, and more recently the mobile phone and broadband, are playing an important role in the everyday life of people for whom daily face-to-face contact is impossible. New applications such as texting, blogging and online social networking allow for faster and more mobile interaction.

Telecommunications technology is also changing the way people conduct their day-to-day business. People increasingly utilise the telephone or online services for their education, health, business operations and business development opportunities. Much of this is detailed in later chapters. In Australia, 73 per cent of households have access to the internet, 50 per cent of Australians use the internet daily, and 91 per cent of Australians use the internet at least once a week.²

This chapter of the report focuses on the use of telecommunications services for aspects of everyday life. The term 'social inclusion' is used to reflect both the social benefits within communities and for the relationship of regional communities with other communities, and the nation as a whole.

The Committee notes the step taken by the Australian Government of recognising the importance of social inclusion. The Minister for Social Inclusion has said:

in our pre-election policy, [we said] that to be socially included, all Australians must be given the opportunity to:

- *secure a job*
- *access services*
- *connect with others in life through family, friends, work, personal interests*
- *and local community*

- *deal with personal crisis such as ill health, bereavement or the loss of a job, and*
- *have their voice heard.*³

Telecommunications services are significant enablers of social inclusion allowing people in regional Australia to 'connect with others', provide 'access to services' and 'have their voices heard'.

More recently Senator Conroy joined other OECD ICT Ministers in declaring:

We are determined to work together to promote ubiquitous access to ICT networks and services enabling widespread participation in the internet economy. The further expansion of the internet economy will bolster the free flow of information, freedom of expression, and protection of individual liberties, as critical components of a democratic society and cultural diversity.

They went on to note (in part):

We share a vision that the internet economy, which covers the full range of our economic, social and cultural activities supported by the internet and related information and communications (ICT), will strengthen our capacity to improve the quality of life for all our citizens by:

- *Providing new opportunities for employment, productivity, education, health and public services as well as addressing environmental and demographic concerns.*
- *Acting as a key driver for the creation of enterprises and communities and stimulating closer global co-operation.*
- *Enabling new forms of civic engagement and participation that promote diversity of opinions and enhance transparency, accountability, privacy and trust.*
- *Creating opportunities for new economic and social activities, applications and services through ubiquitous and seamless access to communication and information networks.*
- *Promoting a global information society based on fast, secure and ubiquitous networks which connect billions of people, machines and objects.*⁴

IMPORTANCE OF TELECOMMUNICATIONS TO EVERYDAY LIFE

While the telephone has enabled regional Australians to interact and be part of their community, regardless of factors of distance or displacement, newer applications such as mobiles and e-mail offer a more efficient means of communicating over distances and increased potential for mobile interaction. As Kate Fox, Co-Director of the Social Issues Research Centre in the United Kingdom (UK) has noted:

Landline telephones allowed us to communicate, but not in the sort of frequent, easy, spontaneous, casual manner that would have characterised the small communities in which most of us lived in pre-industrial times and for which we are adapted by evolution. Communication by landline telephone has always involved a certain amount of deliberate effort and planning: we could only talk at specific times and places. Personal calls on phones at work are frowned upon and often forbidden. We had to wait to get home, hope the other person was at home, overcome tiredness and make a conscious effort to call, often in the presence of noisy children or demanding partners.

Mobile phones — and in particular the ability to send short, frequent, cheap text-messages — have restored our sense of connection and community, and provide a highly effective antidote to the pressures and alienation of modern life.⁵

The Australian Mobile Telecommunications Association's (AMTA) 2007 study titled *Impact of the Mobile Phone Work/Life Balance*, has also found that mobile phones are becoming an important means for communicating with people and enhancing people's participation in their community. It reports that:

- two-thirds of respondents believed mobile phones are fundamental for maintaining kinship ties
- more than half employed respondents believed mobiles are important in facilitating work-life-balance
- more than 90 per cent of respondents believed that their lives could not proceed as normal without their mobile phone
- respondents cited 'convenience' as the reason for using a mobile, and
- respondents see reduced cost as the reason for using a landline over a mobile.⁶

These are all findings relevant to people in Australia regardless of where they live. The plain old voice telephone and the mobile are important tools for being part of a community and maintaining relationships with family and friends. In this regard people in regional Australia are just like their fellow citizens in urban areas and telecommunications services are significant in their everyday life.

The Committee wishes to emphasise the increasingly important role of telecommunications in people's everyday lives and in activities that may appear trivial, but which are nevertheless part of ordinary daily life. For example, the internet is increasingly relied upon for banking, shopping, current affairs, booking holidays, getting football scores, maintaining and building social relationships with friends and family and other social applications (e.g. Facebook), and job hunting.

REDUCING ISOLATION WITH TELECOMMUNICATION SERVICES

The relatively low population density and significant distances between major centres makes geographic separation a significant issue for people living in regional communities. Telecommunication services play a key role in underpinning social and cultural wellbeing by ensuring greater social inclusion and engagement. The importance of widespread access to telecommunications services was also highlighted at the OECD Ministerial Meetings (referred to above) where it was agreed that ICT will improve the quality of life of all people.⁷

Australia is a very remote country, both as a whole and within itself. Eighty five per cent of Australia can be considered remote.⁸ The Committee heard a recurring theme in the public meetings of telecommunications as a tool for addressing the isolation and sense of displacement felt by many in regional areas. As the Committee heard in Horsham:

I live 30 kilometres north of Horsham and I believe the communities have changed. My household uses telecommunications for business, social and educational purposes. I don't mind paying a bit extra than city residents for my telecommunications services as I see the value but I think the current prices are not fair. My area is considered very remote by service providers, thus require a satellite internet connection, yet my area has a population of 30 000 people.⁹

Isolation in regional areas can have a particular impact on specific groups. A study into the effects of drought on families found women with young children living on farms can often feel the greatest sense of isolation due to their circumstances and the restrictions imposed by their physical location.¹⁰

One in five people suffer from depression at some point in their life, and people in regional areas with mental illness can face many issues associated with isolation (including accessing services and community support). More than 300 000 rural Australians experience depression each year. Although depression rates are the same as in urban areas, suicide rates are much higher in regional Australia, and in particular among men.¹¹

Greater Western Area Health Services in NSW told the Committee that regional Australians are resourceful and, combined with effective telecommunications; many locals come up with initiatives to help alleviate the effects of isolation. An example of one such initiative is 'The coffee club'.

Case study — 'The coffee club'

Community-based initiatives to help reduce the effects of isolation in regional areas include online networking groups for women. One initiative, called 'The coffee club', was started by women living on rural properties, who do not have regular contact with other female company due to distance. The club was initiated to enable women to meet up with other women in the same situation for morning tea via teleconferencing facilities.

The women are able to have tea, biscuits and chat with others in similar situations to themselves. The club has become an outlet for these women to communicate how they are being affected by such things as the drought, and provides an avenue for them to interact and seek support from other people in similar situations who understand what they are going through.

Ideas such as 'The coffee club' are important to enable people to open up and seek support and understanding for what are often difficult circumstances. Access to appropriate telecommunications at reasonable prices can play a significant role in meeting the needs of regional people to overcome isolation.

Finding 1.1.1:

A sense of isolation is a significant issue for regional Australians. Access to appropriate telecommunications at reasonable prices presents opportunities to lessen the sense of isolation.

Isolation and special needs

The effect of isolation in regional areas can be further exacerbated for some people who for various reasons are unable to fully access telecommunications services. The National Ethnic Disability Alliance noted in their submission that:

Ensuring a range of telecommunication options in rural and regional areas is important for people from non-English speaking backgrounds (NESB) to maintain connectivity to their families and communities. People from NESB in Australia can experience isolation, particularly if they live in a geographic location with a limited number of people from the same cultural and linguistic background.

This can limit opportunities to share culture, language and religious beliefs and increase social isolation. Arguably there are greater challenges in many rural and regional locations, where there can be a lower representation of culturally diverse residents.¹²

People in regional areas with special needs or disabilities can be further disadvantaged by lack of access to telecommunications, technical support and support in the use of telecommunications. The telecommunications services they need to interact and engage with society are even more critical for these people, and can be further aggravated by, in some cases, the need for specific applications generally costly to acquire and use. Both TEDICORE and the National Ethnic Disability Alliance highlighted these issues.

For people with disabilities in regional, rural and remote areas, lack of finances to purchase goods and services can be compounded by geographic location. Their isolation is perpetuated by this...¹³

People from NESB with disability can face even greater barriers related to poor access to services and a lack of opportunities to participate. Affordable and accessible telecommunications can keep community and cultural connections alive, and reduce isolation.¹⁴

Finding 1.1.2:

People with special needs require access to new technologies at an appropriate price including the necessary support mechanisms to enhance their interaction with society.

Isolation and employment

The attraction and retention of young and skilled people is essential to the ongoing viability of regional communities. The Committee heard at several public meetings that the attraction and retention of skilled people, young people and professionals remains a key issue for regional areas.

...isolation makes it hard to attract trained service people to communities. Similarly, it is difficult to retain young people to rural areas, the populations of which can be expected therefore to age at a rate greater than the Australian average. Overcoming isolation by having adequate voice and internet services is essential to mental and social wellbeing...¹⁵

The challenge of retaining young people in regional areas is greater if their demands for mobile and online social applications are not met. Improved technologies mean that people can work, socialise and complete formal tertiary and further education without needing to leave their immediate region.

It was clear from the public meetings that although the priority is adequate mobile service, the ability to access emerging new mobile capabilities should not be ignored. Mobile phones are now capable of email, video calling, internet and even TV. The *Australian Interactive Media Industry Association's Mobile Lifestyle Index, 2007* found that of all the respondents' phone bill spend, 13 per cent is on content, 7 per cent is on email and 4 per cent is on video calling. In assessing the adequacy of mobile services to attract young people to regional areas, the evolution of mobile technology, particularly as it contributes to access to multimedia capabilities, is important.

The term 'digital generation' is used to represent the generation of people who have grown up with computer technology as the norm. Many young people now demand fast broadband connectivity to download music, play interactive games or upload digital photos to their web logs. The internet has shaped the way they work, relax and interact. It has created a different notion of community and new avenues for expression.¹⁶ Young people expect to be able to interact in this way wherever they are. As one submission noted:

We recognise that Generation Y whether they come from the country or city areas demand the benefits enjoyed by their peers, including the capacity to communicate. Unless we provide this it will be increasingly difficult to attract young people to (or back to) country areas with the inevitable consequences on demographics and social quality. Whilst we expect this to be one of the prices we pay for rural adjustment and so called development, it should not be exacerbated by a lack of telecommunication services.¹⁷

Case Study — Hazard Perception Tests

Queensland Transport is introducing a Hazard Perception Test for drivers to progress from a Provisional license. It is a video-based test delivered over the internet. The person watches a video clip and uses the mouse to identify traffic conflicts.

The training and the test will be completed online via Queensland Transport's website and will not be available through their offices. Queensland Transport has undertaken consultation with Queensland Public Libraries Association as it recognises that some people will want to use a public library as they may not have home internet access or their home technology may make it difficult to undertake the test.

Issues identified with this approach have been that while most Queensland public libraries do have public internet access, the type of access varies between each library service. This is significant as the test requires a minimum bandwidth of 256kbps, and a download capacity of approximately 55–60Mb for the video streaming of an instruction video. Some public libraries may not have a service that complies with the minimum requirement.¹⁸

Finding 1.1.3:

Mobile services and access to the internet are important for attracting and retaining people, particularly young people and skilled staff, in regional Australia.

JOINING THE DIGITAL ECONOMY

The Committee notes the emphasis the Government is placing on the increasing importance of the digital economy to Australian society. Senator Conroy stated in May 2008:

...the digital economy already includes commercial transactions, personal communication, entertainment, exchange of information, and the delivery of services. Research consistently shows that broadband-enabled communities experience more rapid growth in employment, numbers of businesses overall and businesses in IT-intensive sectors. In Australia, the digital economy continues to provide a basis for productivity and efficiency gains across every sector. Internet income for Australian businesses increased from AU\$24 billion in 2002–03 to AU\$57 billion in 2005–06. And this will only grow as new and improved applications arise and new ways of creating efficiencies are developed.¹⁹

The 'digital economy' in this context refers to the global network of economic and social activities which are enabled by information and communications technologies, particularly the internet and broadband. It includes commercial transactions, personal dialogue, information, entertainment and the delivery of services.²⁰ The OECD refers to the same concept as the 'internet economy'.

It is vital that regional Australia is not overlooked by the Government in its commitment to make Australia competitive in the digital world. This includes providing sufficient bandwidth and speeds to enable access to appropriate applications and capacity to interact in the digital economy, as well as training and education in using these applications to that end.

The Committee applauds the past efforts of governments in supporting programs targeting training in ICT. There is scope for these types of government activities to continue into the future. In particular, the Committee hopes that future initiatives ensure the needs of regional areas are met by incorporating such factors as changing needs and technologies, greater flexibility in training methodologies to accommodate the needs of specific communities (including Indigenous communities), and other factors specific to regional areas including seasonal patterns and the availability of training facilities.

Working at a distance

Telecommuting, e-commuting, e-work, telework and home-based work are all words or phrases used to describe a working arrangement that does not require the employee to travel to a location to perform their duties. The word telework most accurately captures the idea of 'working at a distance'.

The use of VOIP and IP-based videoconferencing are cost-effective ways of communicating over large distances. Additionally broadband access networks can enable access to important data applications, and enable collaboration on documents or other electronic artefacts, for example, designs, financial or economic models, presentations, and databases.

Home-based work is a growing and effective way for engaging people in the workforce who, for various reasons, are unable to travel or attend a workplace at a fixed location.

The ability to work at a distance is one of the features of the internet economy. It is more familiar in the context of globalisation, of the ability of companies to spread their operations across the globe. These features are just as important for regional Australia.

Beyond the web

The applications that underpin the digital economy include the early internet applications of email and accessing information on websites, but also include a whole suite of new applications. These applications increasingly depend upon access to broadband connections including sufficient connection speeds and download capacity.

Web 2.0 is a term describing the trend in the use of internet technology and website design that aims to enhance interaction, creativity, information sharing and collaboration among users. This is in contrast to the original application of the World Wide Web (now referred to as Web 1.0) which was a tool for storing, sharing and retrieving information in a public forum.

The term Web 3.0 has been adopted to refer to the use of the internet to host key applications, often referred to as 'software as a service'. This includes things like Google Documents which allows collaborative use of word processing and spreadsheets. It includes major business applications like Salesforce.com, which is an online customer relationship management and sales-force management system.

Web 2.0 has led to websites that have developed and evolved web-based communities, social-networking sites, networked interactive online games, wikis and blogs. Web 2.0 allows the user to interact with the website and other users. Web 2.0 sites require high amounts of bandwidth to work effectively.

Real-time interactivity and the sharing of views and experiences is part of the digital economy. These 'social networking' applications are increasingly being used by corporations, in a process known as Enterprise 2.0, both to extend their interaction with customers and suppliers, and internally. More recently in launching National Missing Persons week, the Australian Federal Police Commissioner, Mick Keelty APM has identified the application of these Web 2.0 activities in making contact with missing young people. He said:

Social networking sites have also been targeted through the development of a missing persons MySpace profile and with videos being uploaded on YouTube extending the reach of the campaign to an international audience. And for the first time, this year's advertising campaign went online at various youth-focused websites.²²

The ability to access and use Web 2.0 and Web 3.0 services on the same basis as urban users provides significant benefits to people in regional Australia.

Case study — examples of Web 2.0 sites

Facebook is an online social-networking website that allows the user to set up their own individual profile which can only be viewed by those the profile owner accepts. While on Facebook, friends share information, photos, start forums about their choice of subject matter and locate friends through the search engine. Facebook was started four years ago and it is currently estimated to have more than 70 million active users.²¹

Second Life allows users to create their own virtual identity and interact with others. It has evolved to be used in many innovative ways, including aiding families who live apart to catch-up virtually and to help people with particular needs to learn social skills in a safe environment.

YouTube responds to the consumer need for on-demand entertainment and for public self expression. It allows the user to upload and share their personal videos with the digital community. YouTube is also becoming a very important marketing tool for many businesses.

eBay is an online auction site that permits any individual to offer an item for sale and allows other users to compete in an online auction to acquire the goods. Applications range from simple trading and bartering to sophisticated businesses that use eBay as a primary distribution channel.

Beyond Access

These examples of digital economy applications emphasise that the issue extends beyond access. As two researchers have noted:

...students of inequality of access to the new information technologies should shift their attention from the “digital divide” — inequality between “haves” and “have-nots” differentiated by dichotomous measures of access to or use of the new technologies — to digital inequality, by which we refer not just to differences in access, but also to inequality among persons with formal access to the internet. After reviewing data on internet penetration, we describe five dimensions of digital inequality — in equipment, autonomy of use, skill, social support, and the purposes for which the technology is employed — that we believe deserve additional attention.²³

The need to focus beyond access was also noted at the National Rural Women's Summit in June 2008. The summit recommended the Government:

*Develop a holistic telecommunications package for all Australians, using digital technology to deliver equitable, affordable and reliable access to broadband, mobile and landline, to enable safety, business, community stability. The package should also invest in maintenance and technical support to enable users to use the new technology.*²⁴

Finding 1.1.4:

To participate effectively in the digital economy, access to appropriate telecommunications services, applications and training is important for regional Australians.

Non-profit and community groups

The non-profit sector also relies on telecommunications to get their work done. Like for-profit business, they are seeking to use telecommunications to cut down costs and help these organisations work more efficiently. As an example, the Mallee Regional Landcare Network is "a network of Landcare co-ordinators that facilitate 27 Landcare Groups and nine networks throughout the Mallee. Co-ordinators utilise 3G mobile technology as a means of communication throughout ... the region."²⁵

Russell Workman, the CEO of Menshed (a non-profit organisations targeting men's health and wellbeing) commented at the Australian Telecommunications Users Group 2008 Regional Conference that with adequate and affordable broadband availability they would be able to bring more health professionals to their community centres via videoconferencing, cut travel costs and help more people.

Other examples of important non-profit organisations are those dealing with environmental management and drought response. The impact of drought on regional Australia underscores the importance of the environment and the need to use available resources as efficiently and sustainably as possible. Non-profit and community groups play significant roles in environmental management and community support during drought.

It is important for the particular circumstances of non-profit organisations and community groups to be considered in measures for providing access to telecommunications in regional areas.

TECHNOLOGY CHANGES

Future developments in telecommunications technology and services significantly enhance and shape the economic, social and cultural wellbeing of Australia. The twin effects of convergence of technologies and platforms and the applications that contribute to the digital economy are expanding opportunities, changing the way we work, play and interact on a daily basis.

As these technologies continue to develop, equitable access will continue to be critically important for people to fully participate in many aspects of society, as increasingly human and business interaction is moved 'online'.

For regional areas in particular, future technology developments have significant capacity to overcome factors of distance and low population densities. Advances in technology can bring people, businesses and whole regions closer together, allowing greater networking, inclusion and social cohesion.

However, it is common for developments to be less readily accessible to people in regional areas, or if they are, not at readily accessible prices. In particular, services are not rolled out to regional areas as quickly as in urban areas, or the implementation is staged such that regional consumers only receive partial service or a standard of service that is not as good while the changeover is being fully affected.

The relatively poor state of competition in many regional areas works against ensuring an efficient transition and implementation to new technologies. When consumers have no other choice, there is the potential for the provider to impose greater costs on consumers during the closing down of existing technology and the transition to new technologies than would be possible in a market with multiple providers. The recent migration of CDMA customers by Telstra to its 3G network is one example of this, and is further discussed in Chapter 2.7 — Consumer Awareness.²⁶

This greatly disadvantages regional consumers. The needs of regional Australia should be considered as part of all future technological developments and deployments. The loss of service that can result from a poorly managed migration has obvious economic impacts, but as noted in this chapter telecommunications services are vital for social inclusion in regional areas. The Committee recommends in Chapter 2.7 — Consumer Awareness a process to ensure providers adequately consider these issues in planning technology migrations.

A number of highly important aspects of telecommunications policy are now converging, and their outcomes will have a profound impact on the future of Australia's telecommunications infrastructure.²⁷ One current example is the switch-over of broadcasting services to digital technologies.

The scope of this Review does not specifically extend to broadcasting issues. However, issues relating to the broadcasting of both digital television and digital radio have been raised with the Committee.²⁸ People advised that they can currently only receive basic television and radio broadcasts of the Australian Broadcasting Corporation by terrestrial means, and in many cases these were unreliable.

A further issue identified in regional areas was people buying new digital televisions and set top boxes, only to discover there is no digital reception in their area. This reflects the importance of retailers ensuring their customers are fully informed of the capabilities of technology for their specific areas. It is important that consumers are properly informed and their expectations managed by retailers. These are matters very similar to those experienced by customers acquiring mobile phones for use in remote areas.

Finding 1.1.5:

Transition to new technologies and services has a greater significance in regional areas and can have substantial consequences for customers if they cannot obtain the same level of services as they had previously.

CONCLUSION

Telecommunications play a key role in underpinning social and cultural wellbeing by ensuring greater social inclusion. Isolation is a key issue in regional Australia. In many cases this reduces the ability of regional areas to retain people and maintain and build a sense of community.

With technological advances and the digital economy, a wealth of new services and opportunities are being opened up to people, enabling enhanced interaction and capacity to participate in the broader social environment. These new services can have enormous benefits for people in regional areas, and emphasise the importance of ensuring equitable provision to people, no matter where they live.

Equitable access requires not just access to infrastructure, but also to appropriate equipment, autonomy of use, skill development, social support, and acknowledgment of

the diversified purposes for which the technology is employed. Further, the roll-out of new technologies and services must not disadvantage regional consumers, both during the transition and in the final outcome.

SUMMARY OF FINDINGS

Finding 1.1.1:

A sense of isolation is a significant issue for regional Australians. Access to appropriate telecommunications at reasonable prices presents opportunities to lessen the sense of isolation.

Finding 1.1.2:

People with special needs require access to new technologies and support mechanisms at an appropriate price to enhance their interaction with society.

Finding 1.1.3:

Mobile services and access to the internet are important for attracting and retaining people, particularly young people and skilled staff, in regional Australia.

Finding 1.1.4:

To participate effectively in the digital economy, access to appropriate telecommunications services, applications and training is important for regional Australians.

Finding 1.1.5:

Transition to new technologies and services has a greater significance in regional areas and can have substantial consequences for customers if they cannot obtain the same level of services as they had previously.

RECOMMENDATION

Recommendation 1.1.1:

The Australian Government fund initiatives to make training, support and appropriate applications available to people in regional Australia to ensure equitable access.

Other relevant recommendations are:

- a. on internet community access points: Recommendation 2.2.3 and Recommendation 3.1.1 (a) (iv), and
- b. on technology changes: Recommendation 2.7.2.

Endnotes

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- 3 The Hon Julia Gillard MP, Minister for Social Inclusion, speech *Social Innovation, Social Impact: A new Australian Agenda*, Sydney, 28 February 2008 <http://mediacentre.dewr.gov.au/mediacentre/Gillard/Releases/SocialInnovationSocialImpactAnewAustralianAgenda.htm>
- 4 Organisation for Economic Cooperation and Development, *The Seoul Declaration for the Future of the Internet Economy*, Seoul, June 2008
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- 11 Beyond Blue, *Depression in rural people*, retrieved 3 July 2008 from www.beyondblue.org.au/index.aspx?link_id=84.420
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- 13 Tedicore (Telecommunications and Disability Consumer Representation), submission, p7.
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- 21 CBS News, *The face behind Facebook*, USA, 2008.
- 22 Australian Federal Police, National Media Release, *Communication the key to connect missing persons*, Canberra, 4 August 2008
- 23 Paul DiMaggio and Eszter Hargittai. From the 'Digital Divide' to 'Digital Inequality': *Studying Internet Use as Penetration Increases*, Working Paper #15, Summer 2001 Centre for Arts and Cultural Policy Studies. www.princeton.edu/~artspol/workpap15.html
- 24 Office for Women, *Recommendations National Rural Women's Summit Canberra, 27–28 June 2008*. www.ofw.facs.gov.au/womens_safety_agenda/rural_summit.htm accessed 21 August 2008.
- 25 Mallee Regional Landcare Network, submission, p.1
- 26 The consultations were conducted during the period in which Telstra was shutting down its CDMA network.
- 27 Engineers Australia *2007 Telco infra report card*, Communiqué p.ii.
- 28 Alice Springs public meeting, 18th April 2008.

CHAPTER 1.2 — EDUCATION

INTRODUCTION

Education is critical to enhancing Australia’s economic and social prosperity and the wellbeing of our people.

Teaching and learning methods are being fundamentally changed by the rapid growth of ICT. Students increasingly access online content and use visual and audio streaming and high definition video conferencing for education purposes.

For vocational education and training, higher education and research institutions, many more subjects will be taught electronically or will have an online component — for example, discussion forums, ‘real time’ exams, and downloading lectures.

These innovations are particularly important for regional areas, where providing education services can pose significant challenges. The Government has announced the ‘Digital Education Revolution’ as the central part of its education policy. This policy aims to significantly expand ICT capabilities in all schools in Australia, and to build on previous initiatives that have supported positive education outcomes.

The Committee considers national access to the best education system that can be provided is a critical priority. Access to telecommunications, particularly broadband, is integral to the delivery of positive and sustainable education outcomes into the future.

SIGNIFICANCE OF TELECOMMUNICATIONS TO EDUCATION

Adequate telecommunication services in regional Australia for education purposes is important as teaching and learning requirements are often different to that of urban Australia, for example, distance education such as School of the Air, primary schools with young and older students in one classroom, and home learning are all features of education in regional Australia.

About 51 per cent of education and training sites in Australia are located outside of urban areas.¹ These schools and institutions need greater connectivity as distance, population size and resource constraints require some curricula to be delivered remotely rather than face-to-face. The provision of adequate telecommunications services can change the way people learn and provide the flexibility required to accommodate different needs, preferences and constraints:

Access to fast affordable broadband is essential for students studying through Distance Education as this is their connection to the information super highway.²

In order for our students to successfully learn via distance—an efficient and reliable broadband service is needed that is at a reasonable cost... Our student families live in rural and remote areas—not just out of town, some are 300 kilometres plus from the nearest town... Broadband has been a great asset in helping us to provide an education for our children. We are now able to use a package—Centra³—that allow students to see their classmates and teachers and engage in learning. However lately we have been experiencing frequent drop outs and interruptions to our service.⁴

Our family lives on a cattle property north of Cloncurry, in North West Queensland... This is our family's 11th year with Mt Isa School of the Air... The teachers are increasingly using the internet on their lessons, but if the internet is down, the children of that family can't join in the lesson... For our children's education and for the family business we need internet that is reliable so that,

- a) the children can look up the internet on the day they are asked to do a project and not have to wait days or weeks or more until the internet is back on, and*
- b) the children can join in every lesson with their classmates and centre teacher...*

...we need internet that is fast so that searching the internet is like turning the pages of a book and not the impractical and frustrating task it currently is.⁵

All education institutions are expected to be connected to the latest broadband services. Gone are the days where in one teacher schools, only the basics are taught to all students regardless of their ability of talent. Teachers in remote schools can't be expected to be a specialist in all areas of education. Access to high-speed video-conferencing and internet is needed.⁶

There is a wealth of existing research that describes the specific difficulties facing regional students in accessing an adequate education.⁷

A study from Charles Sturt University found that the drought negatively affected regional students' access to tertiary level education because of the financial costs associated with access, and/or the need to move for tertiary education. The report suggested that many families were unable to support their young people away from home and that young people gave up their university places because of financial pressures.⁸

The (then) Department of Education, Science and Training in its 2004 report, *Factors impacting student aspirations and expectations in regional Australia* found financial burdens, as well as the prospect of relocating, were obstacles that may hinder access to education. The study noted the common perception that 'to be something' meant having to leave their communities.⁹ Some students noted that those who moved had the chance of becoming 'winners', while those who remained were considered as 'long-term losers'.¹⁰

The most recent figures from the Bureau of Infrastructure, Transport and Regional Economics show that the percentage of 16-year old males still at school or in further education in 2006 was 78 per cent nationally, but only 65 per cent in remote areas and 35 per cent in very remote areas.¹¹

Telecommunications can help overcome some of these regional challenges, allowing some students to stay locally should they choose, without compromising their access to an adequate education. It is important for students, regardless of where they live, to be able to access education services appropriate for their needs.

Adequate broadband connections in schools and the home benefits small communities in that, *young families would be encouraged to stay, with new families encouraged to move to our area if education here is on a par with coastal areas... (This could) result (in) more people living in remote areas, in return creating more sustainable communities... children not having to leave home at such an early age to gain an education to a standard that is expected of all children.*¹²

At the same time, *...all young children everywhere need to learn in a technical environment to prepare them with life skills.*¹³

*Education and health remain the key building blocks for rural community development. With an increasing global skills shortage, rural remote areas will always struggle to attract skills. This will be made more difficult if education and health service provision is not facilitated by good broadband development. Access to essential services will increasingly be dependant on broadband (band)width and access, and in turn the continued sustenance of rural remote communities will be dependant on broadband technology access.*¹⁴

Education includes life-long learning programs. It is important that institutions (libraries and community-based internet hubs) that deliver such programs have the appropriate telecommunication services.

It is to be expected that more education (at all levels including life-long learning) and health will be provided in virtual interactive mode. The current systems simply won't cope with this demand in many areas.¹⁵

IMPORTANCE OF BROADBAND FOR SCHOOLS

For primary and secondary schools, the delivery of curriculum content has become increasingly reliant on the availability of high-speed broadband. ICT capabilities have revolutionised the classroom, such that students can learn and benefit from the latest education applications. These applications are of crucial significance to students in regional areas. They can access experts, work collaboratively with their peers, attend specialist lessons and participate in virtual excursions, all from a computer and regardless of their location. They can grow beyond their immediate region and connect with the rest of the country and the rest of the world.

Case study — Connected Classrooms — NSW Government

In 2007, the NSW Government announced the 'Connected Classroom' initiative. Under the program, every public school in the state will receive a large touch screen whiteboard that can display internet pages and computer-stored teaching materials. The boards will come with video-conferencing facilities, including a camera and projector, so that students will be able to connect to every other school.

The program also funds increased data bandwidth to all schools across the state. The NSW Government has committed to delivering up to 10Mbps to all NSW state schools by 2011.

Most state and territory governments have broadly similar programs. The table below shows the level of connectivity in schools.

Table 1.2.1: Levels of connectivity in schools in December 2007

Speed	% of schools
Below 2Mbps	31.3
2Mbps to 5Mbps	54.9
6Mbps to 10Mbps	13.8

Source: Australian Information and Communication Technology in Education Committee

In Queensland, about 50 per cent of schools have access to 2Mbps. The Queensland Government's target of 512kbps minimum for all schools has not been achieved for more than 190 schools in the more rural and remote areas where in many cases the only option available is a 128kbps ISDN service.¹⁶

In the Northern Territory (NT), schools in Darwin, Katherine, Tennant Creek and Alice Springs can access broadband services of 2Mbps and greater. This represents 46 per cent of NT schools. Schools outside these centres, which comprise a major proportion of the student population, are limited to 256kbps to 512kbps where there is access to supporting terrestrial infrastructure (26 per cent). A further 28 per cent of NT schools are limited to satellite broadband.¹⁷

*...they (schools) are finding the 512kbps and 256kbps remote terrestrial services barely adequate while the satellite service is proving incapable of meeting the needs of users trying to access online learning and management systems. While they would like to increase bandwidth for the remote sites, the costs and lack of backhaul capacity make this impossible at the moment.*¹⁸

Students in regional Australia should not be disadvantaged by a lack of access to the latest advances in digital content and multimedia applications. It has been suggested that ISDN speed of 128kbps is not adequate to support the current and future needs of students in more rural and remote areas.¹⁹

The Committee considers that telecommunications, in particular broadband, can support innovative service delivery and facilitate enhanced learning outcomes, ensuring access to appropriate education services for remote communities. This is particularly relevant to Indigenous communities as outlined in Chapter 1.5 — Aboriginal and Torres Strait Islander People.

The Committee has heard of the concerns of many people regarding the issue of latency across satellite broadband to support access to real-time internet-based education curriculum such as video interactive teaching and learning:

*Satellite is the last resort for education sites as it is not suitable for real time applications such as video-conferencing and online learning.*²⁰

*Generally speaking, satellite internet is not suitable...as it does not allow for information to be transmitted upstream at reasonable speeds. Satellite is also comparatively more expensive and inferior in speed and quality of service (particularly when factors such as inclement weather impact on availability).*²¹

The Committee notes that education service providers should better ensure their curriculum and education services are suitable for the technologies, such as satellite, used to deliver them.

Given the growing use of online education applications in regional areas, upload speeds is increasingly important for regional consumers.

*Broadband services that are scalable, symmetric and affordable are essential to the provision of higher quality, more enriching and engaging educational experiences especially in regional, rural and remote areas.*²²

Finding 1.2.1:

Telecommunications, in particular broadband, can support innovative service delivery and facilitate enhanced learning outcomes, ensuring access to appropriate education services for remote communities. This is particularly relevant to Indigenous communities.

The Committee notes the core elements of the Government's Digital Education Revolution policy are:

- the National Secondary School Computer Fund that provides grants of up to \$1 million for schools to help them provide new or upgraded ICT for secondary students in Years 9–12,²³ and
- the Fibre Connections to Schools initiative, a commitment of \$100 million to contribute to the provision of fibre-to-the-premises (FTTP) broadband connections to Australian schools. This initiative aims to deliver broadband download speeds of up to 100Mbps.²⁴

Other elements of the policy include the development of online tools and resources to support existing curriculum, improving parental participation in e-learning and ensuring teachers have access to ICT training.²⁵

The Committee notes the Fibre Connections to Schools initiative aims for speeds up to 100Mbps and that it is intended to be coordinated with the NBN. However, the Committee is concerned that the initiative may not deliver the service to all schools and/or all students.

Finding 1.2.2:

The Committee welcomes the Fibre Connections to Schools initiative. However, the Committee is concerned that this will not be immediately implemented in all areas, and a number of schools in more rural and remote areas may not get access to this initiative. This will make education opportunities in these areas more limited.

IMPORTANCE OF BROADBAND TO TERTIARY EDUCATION

Higher education institutions generally connect via a private wide area network to a central data centre, rather than through a direct connection with an internet service provider. This approach allows institutions to share the cost of the core infrastructure, and reach greater speeds and data capacity. The Australian Academic and Research Network (AARNet) is an example of this. The AARNet uses 8400 kilometres of fibre to connect 38 universities and the Commonwealth Scientific and Industrial Research Organisation (CSIRO).

Broadband speeds to universities have generally increased from 34Mbps in 2002 to 1Gbps today.²⁶ The exceptions are Charles Darwin University (155Mbps), University of the Sunshine Coast (20Mbps) and University of Tasmania (155Mbps) as well as some regional campuses of other institutions.²⁷

*... smaller university sites in regional areas such as those involved in the training of health professionals still face significant challenges in access to and affordability of the necessary connectivity. Video-conferencing is a critical application especially for students on work experience rotations in rural health clinics.*²⁸

A technologically-enriched education and research system will not only achieve positive learning outcomes, it will also advance Australia's reputation as a leader in research and education. Attracting overseas students and researchers to Australian education institutions will enhance Australia's international standing and capability and bring sustainable economic benefits to the country.

International students not only contribute in terms of tuition fees but also to the local economy through living costs and recreational activities. A number of regional education institutions already have international students enrolled in their courses, both located in regional areas and also at remote campuses located overseas.

Technology-enabled learning is part of the solution to addressing skills shortages in regional Australia. To use this medium effectively, learners in the vocational education and training sector need high bandwidth connectivity where they conduct their learning, whether conducted at the education institution, home or the workplace. Improving connectivity is crucial to the ability to offer more courses, and offer different delivery modes for these courses (that is, online as opposed to (only) the traditional face-to-face methods). This in turn attracts more students and engages students in regional areas who otherwise may not be able to participate:

...we are disadvantaged due to the distances involved compared to students close by. As a first year apprentice I alone will have to travel to Perth (about 2600 kilometres from where I live) to attend TAFE. These plane flights are very expensive (about \$700 return) and I would have to catch these flights a few times a year it becomes a costly exercise.²⁹

During consultations, the South Australian Department of Further Education, Employment, Science and Technology explained that TAFE South Australia has been using videoconferencing since the 1990s. With funding from the Clever Networks program, its curriculum has been expanded from 30 to 120 certificates. TAFE South Australia also runs 21 video-conferences a week, which it claims saves 45 000 kilometres of driving and the associated costs and time annually.³⁰

IMPORTANCE OF BROADBAND TO THE STUDENT AT HOME

With the rapid growth of ICT capabilities, there is an expectation that students have access to a computer and a reliable broadband connection outside of the school or campus. For all forms of education there is an increasing tendency for all activities to be carried out online, for example, enrolment, assignment submissions.

In Townsville, a representative from the James Cook University (JCU) spoke of the different ways students now learn. Students learn in a different ICT environment, they can download lectures and course notes at a time that is suited to their particular need.

This is important for students with particular needs — for example, students studying English as a second language, working students, or student with disabilities such as autism who may be easily distracted by the presence of others.

All JCU students have access to a wealth of electronic resources including:

- *subject outlines, including reading lists and useful links*
- *items held in the JCU library...*
- *interactive resources including discussion forums with lecturers and classmates, live chat and student e-portfolios and web page and*
- *StudentOnline [which] enables students to check and change enrolment details, choose classes and create timetables, check exam results, create personalised lists and find out about key dates...*

There is an assumption and expectation that students will have access to a computer (at) home with internet access so that they can access JCU resources and services remotely.³¹

During public consultations, the Committee heard from tertiary education providers that access to broadband provides a new and enhanced learning experience.³²

Education broadband requirements differ from those of residential and small business users. Policy makers and telecommunication suppliers must not assume that the availability of affordable residential broadband in regional, rural and remote areas will meet the curriculum needs of education sites in these areas.³³

...as a regional university we are concerned that access to, and the reliability and quality of internet and broadband services available off campus may be inadequate in regional, rural and remote parts of Australia. This in turn, affects our ability to deliver quality education and provide equitable access to students and staff.³⁴

The Committee heard that, *any broadband subsidies for students may be an important enabler for the delivery of education in regional, rural and remote Australia.³⁵*

Chapter 2.2 — Broadband shows that people in regional Australia face higher broadband prices than consumers in urban parts of Australia. This affects the access of students in regional Australia to education.

Finding 1.2.3:

The high relative price of broadband in regional Australia means access to education services is more difficult for students in regional Australia.

IMPORTANCE OF BROADBAND TO EDUCATORS

The Committee received a number of submissions relating to the operation of a school or a learning institution as a business and how the lack of ancillary facilities such as hardware, software and technical support may be restrictive in delivering educational opportunities and outcomes:

Educational services require technology and communications for data backup, student records, virtual learning environments, messaging, email, voice communications, web publishing, video-based teaching and interaction with students, financial transactions, access to large data sets of educational resources and research.³⁶

Things like library services are increasingly electronic and without them, professional people and their support staff are even more disadvantaged. As a further example, my recent attempts to have an interactive/visual project planning session with people on Eyre Peninsula using smart technology failed because of poor and interrupted line capacity.³⁷

Educators require appropriate broadband services to:

- support their research needs and respond promptly to students
- upload course materials, and
- access the latest online teaching tools and resources for their own personal development.

Educators must also be able to update their ICT skills so they can teach and operate in the digital education environment.

It is increasingly difficult to attract professional staff to rural areas, which means that we increasingly rely on less experienced staff being supervised from larger centres. This requires the transmission of large files which is not easy on many internet routes. My own experience in a number of areas is that anything over about 2MB becomes a real hassle and on dial up services needs to be sent in the middle of the night if it is to go at all.³⁸

Finding 1.2.4:

Broadband is important to attract and retain skilled educators in regional Australia.

CONCLUSION

Access to broadband is important to enable students, regardless of where they live, to be able to access education services. Similarly, communities should be able to access the training and development they require for their personal development and fulfilment. Broadband is also important in attracting educators in regional areas and to enable them to update their ICT skills so they can enhance their personal development and equip students with the skills they need for the future.

The Committee notes providing education services to remote areas are a responsibility for the relevant education areas within Australian, state and territory governments. To meet the needs of regional students, greater collaboration is required within and between governments.

In some remote areas, particularly those in unincorporated areas where there is no local government presence or publicly funded community access centres (as discussed in Chapter 1.1 — Social Inclusion), the Government could consider facilitating the opening of publicly funded computer labs as a public resource centre after school hours. The Committee recognises the complexity of this, including the possible strain on resources in one-teacher schools in remote areas and potential insurance issues.

SUMMARY OF FINDINGS

Finding 1.2.1:

Telecommunications, in particular broadband, can support innovative service delivery and facilitate enhanced learning outcomes, ensuring access to appropriate education services for remote communities. This is particularly relevant to Indigenous communities.

Finding 1.2.2:

The Committee welcomes the Fibre Connections to Schools initiative. However, the Committee is concerned that this will not be immediately implemented in all areas, and a number of schools in more rural and remote areas may not get access to this initiative. This will make education opportunities in these areas more limited.

Finding 1.2.3:

The high relative price of broadband in regional Australia means access to education services is more difficult for students in regional Australia.

Finding 1.2.4:

Broadband is important to attract and retain skilled educators in regional Australia.

RECOMMENDATIONS

Recommendation 1.2.1:

The Australian Government work with state, territory and local governments to ensure that schools in regional Australia have the same access to broadband and ICT services that will be delivered by the Digital Education Revolution and the Fibre Connections to Schools Initiatives to urban based schools.

Recommendation 1.2.2:

The Australian Government facilitate greater access to educational bandwidth for regional tertiary institution. This could include promoting access for Technical and Further Education institutions to networks such as the Australia's Academic and Research Network.

Recommendation 1.2.3:

The Australian Government work with state, territory and local governments to:

- a. address the higher costs of telecommunications for students in regional areas, and
- b. promote initiatives that support the innovative use of broadband for specific education and training purposes.

Other relevant recommendations are:

- a. on addressing the higher costs of broadband in regional areas:
Recommendation 2.2.1

Endnotes

- 1 Australian Information and Communications Technology in Education Committee, submission, p.4.
- 2 Michael and Ros Davis, submission, p.2.
- 3 Centra is the name of web-based learning software.
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- 28 Australian Information and Communication Technology in Education Committee, submission, p.12.
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On route from Darwin, to Daly River, NT. 15 April 2008.

CHAPTER 1.3 — HEALTH CARE

INTRODUCTION

Access to quality health care is critical to enhancing Australia's economic and social prosperity and the wellbeing of our people. This applies equally to regional areas.

The provision of health care is being fundamentally changed by the rapid growth of ICT. Providers of health care increasingly rely on advanced communications including online content and use visual and high definition imaging. Consumers are using telecommunications to access health care advice and services remotely.

The Committee considers telecommunications has an important role in the delivery of health care in regional Australia.

SIGNIFICANCE OF TELECOMMUNICATIONS TO HEALTH CARE

The importance of telecommunication services in improving the provision of health care to regional areas, particularly in meeting the needs of the elderly, disabled and those with long term illness, was emphasised during regional consultations. There is a potential for telecommunications to reduce the higher costs of health care delivery in regional areas.

The low population density in regional Australia makes it more costly to provide leading-edge health care. In the past, the tendency has been to address these higher costs by centralising health care facilities. The result is that people in regional areas increasingly live vast distances away from the nearest health care facility.

The need to travel long distances to attend a health care facility imposes significant increased costs on consumers in regional areas that are not borne by people in urban areas to the same extent. The cost of travel to these centres, as well as the cost of treatment itself, adds pressure on families in their time of need. The costs also include lost business income, the cost of hiring additional staff and the costs associated with keeping in touch with relatives and friends back home.

Electronic access to professional medical and health care providers for consultations through means such as teleconferencing or videoconferencing facilities has the potential

to reduce the costs to consumers, where the use of technology enables the consumer to avoid travelling long distances. It is necessary to have adequate telecommunications services for this to occur.

Such remote access can also reduce the cost to health care providers in conducting their business in regional Australia. This may include in some cases, remote monitoring and supervision of people with particular health needs enabling them to remain at home with local and family support, avoiding a costly hospital visit away from family support.

Telecommunications can also play a significant role in improving outcomes for consumers of health care. Health care consumers are increasingly using the internet to obtain information, communicate with others, receive support, stay in touch with families and friends, and increase awareness of treatment options. The Committee heard that access to online resources, including forums and support groups, has helped remove the isolation factor and allowed people with medical conditions and their families to access other people with a similar condition. A representative from the South Australian Cancer Council explained that these online support groups helped cancer patients discuss their illness and the treatments they were undertaking.¹ The groups allowed them to communicate with people going through similar experiences, build support networks and form friendships, which was important.

The use of electronic health records may also provide opportunities to improve the delivery of health care in regional Australia and to reduce costs. Where health records are stored electronically and there are adequate telecommunications a patient's records can be accessed and updated electronically by all appropriate health care providers who may be in different parts of the country. For example, the records could be updated by the local general practitioner and the treating specialist in real time. Medical images can be taken at the local imaging centre and transferred electronically in a secure environment instantly to a specialist located anywhere in the world. This saves valuable time and resources in transporting records and facilitates a more timely diagnosis.

The development of electronic health records is a nation-wide issue. The National E-Health Transition Authority (NEHTA) was formed in 2004 to ensure a uniform transition across every state and territory to support connectivity and interoperability of electronic health information systems across Australia. A representative of every state and territory government and the Australian Government sits on the board of NEHTA.

The standards provided by NEHTA for use on a national level, have the potential to unlock substantially greater quality, safety and efficiency benefits, and to provide:

- improved quality of healthcare services

- streamlined multi-disciplinary care management, enabling seamless management and handovers of care
- improved clinical and administrative efficiency, by standardising certain types of healthcare information to be recorded in e-health systems, and
- maintaining high standards of patient privacy and information security.²

In the NT, the Committee was told of the particular importance of e-Records in keeping track of the health records of the Indigenous population, who are highly mobile and may often require medical assistance away from where their records may be traditionally kept.³ The Committee understands that this system in the NT is the most developed nationally and is being implemented throughout the Territory.

In Kalgoorlie, the Committee was presented with the idea of developing a 'national health register' to be used by health practitioners to provide better patient care.⁴

The Committee notes the work of NEHTA and the work being undertaken by all governments to enhance the standard of health care in regional areas. However, the Committee is not convinced that efforts to date have produced the outcomes necessary for regional communities. The Committee advocates a stronger level of coordination across governments to ensure the infrastructure and connectivity is available to enable provision of these services to regional areas.

Case study — Scope Connect

Scope Connect is a collaborative health project between Scope (a non-profit organisation supporting people with disabilities and their families located in Victoria), Database Consultants Australia and the Australian Government. The project aims to improve the efficiency and effectiveness of healthcare workers in rural and remote areas.

The Scope therapists have broadband access to the internet, Scope's intranet, and client management software (including the electronic health records of the patients they are seeing) on a light-weight portable PC. This ensures patients receive immediate and accurate health advice. The workers are able to access the most recent notes on the patients' files, rather than waiting to receive hard copy patient records which are quite often heavy and not always up to date.

Finding 1.3.1:

Telecommunication can improve access to quality health care and reduce the high cost of health care in regional Australia for providers and consumers of health care.

Although the availability of telecommunications is a critical requirement of world-class health services for regional Australia, it plays an equally important role in meeting the needs of health care professionals in 'bridging the gap' by providing professional support and reducing professional isolation for these people working in the field.

The Committee heard that there is a shortage of health care professionals and specialists outside of urban Australia. The 'tyranny of distance' in these cases makes it difficult for medical facilities in regional Australia to attract and retain skilled workers and specialists.

...our area is serviced by a Primary Health Centre. The centre is run by one trained nurse, with visits from the Flying Doctor who is a general practitioner and visits from North West Primary Health workers. There is no access to specialised equipment or services...⁵

The attraction and retention of health care professionals is a significant issue for regional areas. Often they are required to work alone, and generally do not have the same level of access to ongoing peer support and development opportunities.

Remote health services for example, need to have reliable broadband internet to ensure that training and support needs of the remote practitioners can be met.⁶

With the availability of online training, health care professionals are able to stay on top of the latest treatments and trends in medical thinking. Streaming video lectures and tutorials, taking part in conferences via video link and sitting exams online allows health professionals to enhance their knowledge and skills. They can then apply their newly gained skills for the benefit of people in these areas and remain competitive in their field.

Finding 1.3.2:

Access to appropriate telecommunications is important in attracting and retaining skilled health professionals in regional Australia.

As noted in Chapter 1.5 — Aboriginal and Torres Strait Islander People, the standard of health care being accessed by Indigenous Australians is affected by factors such as the distance to appropriate health services, lack of transport, the high cost of health care and long waiting times. The Committee accepts that in some cases this is an issue of personal responsibility. However, governments of all levels have a role to play in ensuring appropriate access to these services is available to remote Indigenous communities, in particular, to online remote health services.

At the Council of Australian Governments (COAG) meeting on 3 July 2008, it was agreed that COAG would provide funding to ensure Indigenous children receive appropriate healthcare from birth as part of the Closing the Gap strategy.⁷

People with disabilities living in regional Australia face particular challenges compared to their urban counterparts. It is vital they have equitable access to telecommunications services.

The *Telecommunications (Consumer Protection and Service Standards) Act (1999)* and the *Disability Discrimination Act (1992)* specifically address telecommunications services for people with disabilities. In addition, the recently adopted *United Nations Convention on the Rights of Persons with Disability* has specific articles and paragraphs that outline the obligations of states to ensure access to telecommunications services for people with disabilities.

*Access to the internet and to SMS services is of particular importance to people with hearing/deafness disabilities. The use of email and SMS has been embraced with enthusiasm by people who have difficulty communicating by voice telephone.*⁸

TEDICORE promotes the use of consumer safeguards that help protect the rights of people with disabilities and allow them to equitably access the full range of communications services available. TEDICORE has developed a best practice model in telecommunications for people with disabilities in Australia.

TEDICORE provides advice to governments, regulators and communication organisations on the development of standards and codes, policies and programs that will maximise the equity of access to telecommunications for all Australians. It also provides advice to people with disabilities about all aspects of telecommunications technologies.⁹

Special needs users require special purpose applications to enable them to use telecommunications services and this can be at a significant cost to these people.

Finding 1.3.3:

It is critical for health care provision in regional Australia that there be access to affordable, equitable and quality telecommunications services.

IMPORTANCE OF BROADBAND TO HEALTH CARE

Throughout the consultations and in submissions, the Committee heard of the importance of access to broadband for effective health care in regional areas.

Without the connectivity to populate and to access health data health care will remain a world of disconnected silos of information.¹⁰

The extent to which new health care delivery models and technologies can be supported by broadband is entirely related to the capacity, availability, reliability and cost of broadband in regional areas.¹¹

As discussed above, broadband can:

- facilitate the usage of remote diagnosis and video or teleconferencing with specialists
- provide remote access to patient records
- assist in attracting and retaining highly skilled professionals in regional areas, who can update their skills and knowledge without needing to travel to undertake courses or lectures
- put hearing impaired people on a level playing field by allowing them to communicate effectively, and
- allow people with disabilities in regional Australia to bridge both the geographical and physical divide they face.

The Committee heard in Townsville from a representative of Queensland Health who described how the current broadband capacity in many regional areas has significant implications for the quality and cost of health care services to those communities.¹²

Case study — The Virtual Trauma and Critical Care Unit

The Virtual Trauma and Critical Care Unit was launched on 25 June 2008 and provides specialist support for hospitals and clinics treating patients in regional areas in Victoria (including Bendigo, Mildura, Echuca and Swan Hill). Using a high-speed broadband connection, regional hospitals are able to access specialists in major hospitals in Melbourne. Consultations take place by videoconference and specialists are able to access patients' medical records online.

It is claimed that this project provides many significant benefits to the regional community:

- trauma and critical patients receive immediate care, improving their chances of a faster recovery
- patients remain in the area and their relatives are not required to travel, reducing the financial pressure on the family, and
- health professionals in regional areas receive on-the-job training and education, potentially improving retention rates of important staff.¹³

IMPORTANCE OF MOBILE TELECOMMUNICATION SERVICES TO HEALTH CARE

Mobile telecommunication services are important to the effective delivery of health care. For example, in Naracoorte, the Committee heard of an individual with an anaphylactic reaction to a bee sting, who could not contact a health care facility or an emergency service because there was no mobile coverage for that person's mobile phone. In emergencies, reliable mobile service can be critical to the health and welfare of people. The Royal Flying Doctor Service of Australia (Queensland Section) submission noted:

Mobile phones are critical means to ensuring safety by providing access to health assistance especially in the event of an emergency.¹⁴

Mobile telecommunications can also be of increased importance in small towns where there may be a single medical practitioner. Mobile services allow the provider to leave their clinic or health facility to attend to a patient and to stay in communications for calls, including attending to medical emergencies. It is important that if this is the case, that the health care provider have a mobile service that is appropriate. Employers of health care providers also need to ensure that where they provide a mobile service for their employees, that the service is appropriate for the area in which they will be working.

The concerns raised about the lack of terrestrial mobile coverage for health care provision indicates the need for increased awareness of the limitations of the terrestrial networks, in particular that hand-held terrestrial coverage is likely to be less than 15 per cent of Australia's landmass. This is discussed further in Chapter 1.4 — Emergency Services, and Chapter 2.1 — Mobile Communication.

As noted in Chapter 2.1 — Mobile Communication, there are a number of mobile services available that provide coverage for hand-held phones Australia wide using satellite technologies. For example, the Committee is encouraged by the Thuraya dual band handset and satellite-GSM mobile services becoming available on the market. This service will provide coverage Australia-wide via the Thuraya satellite and GSM coverage when in range of an Optus GSM terrestrial base station.¹⁵

Some individual health care providers and non-Government health care organisations are taking advantage of the current Australian Government Satellite Phone Subsidy Scheme, which reduces the effective price of satellite mobile phone service for people who conduct business outside the range of terrestrial mobile networks.¹⁶ Mobile satellite phone services are currently more expensive than terrestrial mobile phone services (see Table 2.1.2 in Chapter 2.1 — Mobile Communication).

The Committee understands that some health care organisations operating in regional Australia would like to receive more subsidies to support increased use of mobile satellite phones.¹⁷ The current scheme provides a maximum of two subsidies per organisation. The Committee considers that providing additional subsidies under the Satellite Phone Subsidy Scheme for multiple handsets for small to medium enterprises (SMEs) and non-profit health care organisations operating in regional Australia would make access to mobile telecommunications services more equitable.

Finding 1.3.4:

Mobile telecommunication services are important for health care providers operating in regional Australia. Extending the current Satellite Phone Subsidy Scheme to provide multiple subsidies for SME and not-for-profit health care organisations operating in regional Australia would make access to mobile telecommunications services more equitable

IMPORTANCE OF VOICE TELEPHONY TO HEALTH CARE

Voice telephony and payphones are still important to the health sector in regional Australia.

The Committee heard at several public meetings that Priority Assistance in having fault repaired quickly was of particular importance to the health sector.¹⁸ These services ensure people with ongoing health care concerns have reliable connectivity when they need it.

In Queensland, we hear that Telstra provide very good support services to people with life-threatening illness. This support extends to the provision of alternative service methods such as mobile or satellite phones when the land line is not functioning.¹⁹

Finding 1.3.5:

Priority Assistance for telecommunications services remains essential for regional areas.

CONCLUSION

The Committee has established that enabling access to high capacity telecommunications to support the delivery of effective health solutions to regional areas is essential. The Committee has heard how such initiatives as e-health offer significant potential to meet the ongoing healthcare needs of regional communities, including remote Indigenous communities. All levels of government and industry need to work collaboratively to facilitate the provision of these services for regional communities.

The Committee is also looking for better mobile telephony services to support the activities of health care professionals in regional areas. Insufficient coverage or insufficient flexibility under the Satellite Phones Subsidy Scheme is impacting on the standard of care in many areas, particularly for the elderly and disabled.

SUMMARY OF FINDINGS

Finding 1.3.1:

Telecommunication can improve access to quality health care and reduce the high cost of health care in regional Australia for providers and consumers of health care.

Finding 1.3.2:

Access to appropriate telecommunications is important in attracting and retaining skilled health professionals in regional Australia.

Finding 1.3.3:

It is critical for health care provision in regional Australia that there be access to affordable, equitable and quality telecommunications services.

Finding 1.3.4:

Mobile telecommunication services are important for health care providers operating in regional Australia. Extending the current Satellite Phone Subsidy Scheme to provide multiple subsidies for SME and not-for-profit health care organisations operating in regional Australia would make access to mobile telecommunications services more equitable.

Finding 1.3.5:

Priority Assistance for telecommunications services remains essential for regional areas.

RECOMMENDATIONS

Recommendation 1.3.1:

The Australian Government work with state and territory government health sectors, as well as the private health sector, to maximise the opportunities for improved access to enhanced health services arising from initiatives.

Recommendation 1.3.2:

The Australian Government broaden the scope of the current Satellite Phone Subsidy Scheme to make it more accessible to community-based and not-for-profit health care workers and emergency service volunteers.

Other relevant recommendations are:

- on funding for the expanded satellite phone subsidy scheme: Recommendation 2.1.1, and Recommendation 3.1.6.

Endnotes

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- 7 Council of Australian Governments, 3 July 2008, *Communiqué 3 July 2008*, Council of Australian Governments, viewed 12 July 2008 www.coag.gov.au/meetings/030708/index.htm#indigenous_reform
- 8 Deafness Forum, submission, p.12.
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- 18 Telstra, as part of its licence condition, must provide a priority assistance service to those with diagnosed life-threatening medical conditions that depend on a reliable home telephone service to call for help when needed. Priority assistance customers are entitled to faster connection and fault repair of their telephone service and a greater level of reliability.
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On route from Daly River, NT to Kununurra, WA. 16 April 2008.

CHAPTER 1.4 — EMERGENCY SERVICES

INTRODUCTION

Emergency services rely on effective telecommunications to respond quickly and efficiently to emergencies and coordinate activities with others, reducing response times which can lead to a decrease in the loss of life, and enhancing quality of care such as video ambulance emergency attention.

The responsibility for emergency services predominantly lies with state and territory governments. However, the national body, Emergency Management Australia, has broad responsibility to assist in developing emergency management capabilities. Within this framework, emergency service organisations are responsible for delivering emergency services on the ground and must work collaboratively with governments to facilitate effective emergency response.

To ensure that telecommunications enhance current emergency service capacity, the telecommunications industry, in partnership with the Australian Communications and Media Authority (ACMA) and the emergency management sector developed a set of guidelines on how carriers and carriage service providers will respond to requests for telecommunications services during unpredictable emergencies such as bushfires and other natural disasters. The guidelines state:

Following the liberalising of the telecommunications market in Australia and the advent of competition, the supply arrangements for telecommunications services have become more complex. Total reliance on Telstra for emergency communications management support is no longer appropriate... Other providers may appropriately be involved in the provision of pre-planned services where they are providing the basic telecommunications services to emergency service organisations.¹

SIGNIFICANCE OF TELECOMMUNICATIONS TO EMERGENCY SERVICES

Telecommunications in emergency situations are the vital link in the chain between the public and emergency service organisations, specialist skills and medical care.

When emergency services are required to respond to an incident in regional Australia, it is more likely that greater distances will need to be travelled. This means there will

be greater delays in providing the necessary assistance. Telecommunications play an important role in avoiding unnecessary delays.

Emergencies, particularly medical emergencies, occur at any time and telephone contact in an emergency is imperative. In areas where there is no mobile telephone coverage and there is a power outage that lasts longer than the life of the battery then subscribers may well be stranded.²

Regional populations are more dispersed and have an increased need to travel, particularly long distances. This underscores the importance of access to reliable and effective telecommunications services, supported by high capacity infrastructure. This is particularly relevant for highways and major roads that do experience greater traffic numbers but, in many cases, have limited telecommunications.

With the reducing populations in rural areas and increasing size of farm businesses, telecommunications are becoming increasingly important for personal safety (both on the farm, in domestic situations and on the roads).³

Climate change is also likely to increase calls on emergency services, and underscores the need to have adequate telecommunications to support them. The Central NSW Councils stated, *...the increasing likelihood of adverse weather events and fire in climate change, (highlight that) access to emergency services is a priority...⁴*

Unlike other public services, emergency services have a very high involvement of volunteer workers. If emergency services are to continue to be able to rely on their extensive volunteer workforce they will have to support that workforce with suitable equipment and services. As the Attorney-General recently announced:

In a country like Australia that experiences floods and fires on an annual basis, volunteers are worth their weight in gold. It's essential that governments assist their great work as much as they can.⁵

The Committee heard from the Country Fire Authority in Bairnsdale, St John's Ambulance in Perth and the Royal Flying Doctor Service in Broken Hill. Both had examples of where emergency services in many areas would be significantly improved through the use of appropriate and available communications technologies. The Municipal Association of Victoria submitted:

Emergency services, dealing with common regional emergencies such as fire and flood, have an absolute requirement for the latest communication resources and tools. Maximising the effectiveness and coordination of scarce natural, human and equipment resources in handling emergency services can only be achieved through high standard ICT, which is currently unavailable.⁶

At Broken Hill, the Committee heard of a government employee being provided with an inappropriate equipment and service for use in an emergency. An officer of the NSW National Parks and Wildlife Service was issued with a GSM-only mobile telephone. In the area in which the officer worked, there is no GSM mobile coverage. However, there are available a number of hand-held and in-car mobile services providing coverage for the area using satellite technologies.

Emergency service organisations' use of telecommunications extends beyond the use of publicly available services like mobile telecommunications. Frequently they have their own systems, and these systems need to be effective. Inadequacies in these systems have been a recurrent theme in past coronial inquiries.⁷ The 2003 Canberra bushfires was an example of where these systems were not as effective as they could have been.

Case study — Canberra region bushfires

On Saturday 18 January 2003, bushfires in the Canberra region caused widespread damage to rural properties, parks and forests, houses and urban infrastructure. Four people died and more than 500 houses were destroyed. The subsequent McLeod Inquiry found that the emergency service personnel were overwhelmed by the intensity and speed of the fires.⁸ The Emergency Services Bureau submission to the McLeod Inquiry stated that, *...radio communications systems did not meet the substantial demands created by an event of this magnitude.*

Among the problems brought to that inquiry's attention were:

- inadequate coverage
- congestion on various networks
- the inability of the communications centre to handle the volume of traffic
- apparent shielding, possibly because of dense smoke
- inadequate ground-air communication
- difficulties with interoperability between the various fire fighting elements, and
- insufficient quantities of equipment.

The Committee notes ACMA's spectrum review and recently released discussion paper *Spectrum Options: 403–520Mhz*, which is motivated by the need to identify spectrum to facilitate radio communications interoperability of certain government agencies (such as law enforcement and other emergency services). The paper states:

Federal, state and territory governments are significant users of spectrum, particularly for land mobile radio communications supporting emergency services such as police, fire and ambulance.⁹

Broader support, guidance and commitment from Australian Governments and individual government agencies are essential for real interoperability objectives to be realised.¹⁰

This collaborative approach to the development of protocols for the use of spectrum would assist in the protection and safety of people in regional areas.

The Committee is aware that the Government's Clever Networks program provides funding for innovative services delivery. One of the projects funded is the Emergency Connect WA project. Emergency Connect WA aims to improve the delivery of emergency services across regional, rural and remote areas of Western Australia by ensuring timely access to, and reliable transmission of, real-time incident information. It is also intended to improve the safety, security and efficiency for emergency works and resources. The program indicates that funding latest technology communications networks in the emergency sectors will decrease the possibility that communications technologies will be superseded in a short life-cycle.¹¹

IMPORTANCE OF MOBILE COMMUNICATIONS FOR EMERGENCY SERVICES

Publicly available mobile communications perform an important supplementary role for emergency service providers. Emergency service providers' primary mobile communications are usually private systems for that organisation, for example, police radio communications. Consumers rely on mobile telecommunication services to contact emergency service providers. ACMA advised that in 2007–08 financial year there were 12.2 million calls to '000' and of these, 7.5 million (or 61 per cent) were from mobile phones.¹²

The Committee heard that many travellers were disappointed that their expectations about the extent of terrestrial mobile coverage were not met. As terrestrial hand-held mobile phone coverage is less than 15 per cent of Australia's landmass, travellers relying on this type of service could find themselves without a connection.

For people, particularly women, travelling alone along the isolated roads in remote areas, access to mobile telephone networks is an important safety requirement.¹³

It is important for people travelling in regional areas, including domestic and foreign tourists, to have a greater awareness of the limitations of terrestrial mobile services, and of the most effective means to contact emergency assistance when required. This also applies to employers with employees travelling in regional areas to address potential occupational health and safety matters.

This issue is discussed further in Chapter 2.1 — Mobile Communication.

Finding 1.4.1:

Lack of awareness of the limitations in terrestrial mobile phone coverage has a significant impact on the effective utilisation of emergency services.

IMPORTANCE OF BROADBAND TO EMERGENCY SERVICES

Broadband can play an important role in predicting, and preparing for, extreme weather conditions. The Committee heard in Daly River, NT, how the internet was used to check weather forecasts to assess evacuation requirements during the wet season.

As noted in Chapter 1.3 — Health Care, broadband can provide opportunities to improve the quality of health care in regional areas. For emergency services, this could, for example, include video links between the emergency medical service providers in an ambulance and medical specialists in a hospital. This would enable the paramedics to receive advice, and for the receiving hospital to better prepare for the delivery of its care to the patient.

However, the availability of services such as mobile broadband would only deliver benefits where the emergency service personnel (including volunteers) and the others are supplied suitable equipment and facilities and receive training and ongoing support.

Remote health services for example, need to have reliable broadband internet to ensure that training and support needs of the remote practitioners can be met.¹⁴

As health centres in regional Australia are generally located significant distances apart, providing such tele-medicine applications during transit could provide vital life saving opportunities.

IMPORTANCE OF FIXED VOICE TELEPHONY FOR EMERGENCY SERVICES

Voice services remain the primary means by which people call emergency services. The Municipal Association of Victoria noted, *Fixed telephone services are considered very important, primarily for community health and safety reasons, particularly due to inadequate mobile phone coverage and service.*¹⁵

In public meetings, the country fire service representatives claimed fault repairs were taking five to six days in some instances. They argued that essential service providers such as emergency and health services should receive priority 'fast-tracked' service. These service providers deliver an essential service and establishing contact is paramount. Repairs should be made a priority for these members of the community.

The Committee notes that it is the responsibility of emergency service organisations to ensure that their personnel (paid and volunteers) have appropriate telecommunications services, including appropriate priority for repairs. State and territory governments and other large organisations purchasing telecommunications should ensure that appropriate arrangements to deal with this issue are negotiated with telecommunications service providers in their contracts with providers.

Finding 1.4.2:

There is scope for the Australian Government to encourage state, territory and local governments to negotiate with their telecommunications service providers for improved repair, maintenance and serviceability requirements for the provision of telecommunications for emergency service providers.

COMMUNITY EMERGENCY RESPONSES

'Phone trees' contact techniques are useful, accountable and reliable ways of spreading information and mobilising responses during emergency situations, and have been utilised in regional areas for many years. A phone tree is a prearranged, pyramid-shaped system that relies on the coordination of several callers to convey a message to a number of people. However, they can be costly for the callers, especially if they are responsible for calling 10 or more contacts and they are in an extended zone area.

The internet and social networks could also be used to distribute information and coordinate community response to emergency situations. An example of this is the response during an Asian tsunami in 2004:

...Sahana (www.sahana.lk) was created as a free and open source web-based collaboration tool to use information technology to address the common coordination problems in emergency response, such as finding missing persons and facilitating communication between volunteers.¹⁶

Payphones still can play an important role in emergency situations. This is especially the case in remote Indigenous communities.

There will also be occasions when emergency service organisations need to quickly warn large, or specific, sections of the community of impending emergencies, for example bushfires or hazardous material spills. States and territories use a range of mechanisms to communicate warnings to the public, most commonly doorknocking, sirens, television and radio broadcast message alerts.

COAG has asked the Ministerial Council for Police and Emergency Management to propose a way forward for a nationally-consistent community emergency warning system. This will involve an examination of new technologies, including systems for issuing telephone-based alerts, which would build on existing mechanisms to provide enhanced capacity to issue warnings to the community in the event of an emergency. COAG will consider progress on the proposal at its October 2008 meeting.¹⁷

Finding 1.4.3:

Telecommunications are critical for organising community response in times of emergencies and more can be done to support the community in providing emergency services in regional areas.

CONCLUSION

Telecommunications are vital to the provision of emergency services. Adequate access to, and maintenance of, all telecommunications remains a priority for regional areas.

Improved awareness of the limitation of terrestrial mobile phone service and the availability of other telecommunications services should enable people to better use the most effective means to contact emergency services when needed and to make the necessary preparations to do so.

Emergency services remain the primary responsibility of the state and territory governments. The Committee considers the safety and security of people will be improved through access to appropriate telecommunications services and facilities, training and awareness raising activities.

SUMMARY OF FINDINGS

Finding 1.4.1:

Lack of awareness of the limitations in terrestrial mobile phone coverage is significant.

Finding 1.4.2:

There is scope for the Australian Government to encourage state, territory and local governments to negotiate with their telecommunications service providers for improved repair, maintenance and serviceability requirements for the provision of telecommunications for emergency service providers.

Finding 1.4.3:

Telecommunications are critical for organising community response in times of emergencies and more can be done to support the community in providing emergency services in regional areas.

RECOMMENDATIONS

Recommendation 1.4.1:

The Australian Government fund initiatives and seek matching contributions from state and territory governments, to:

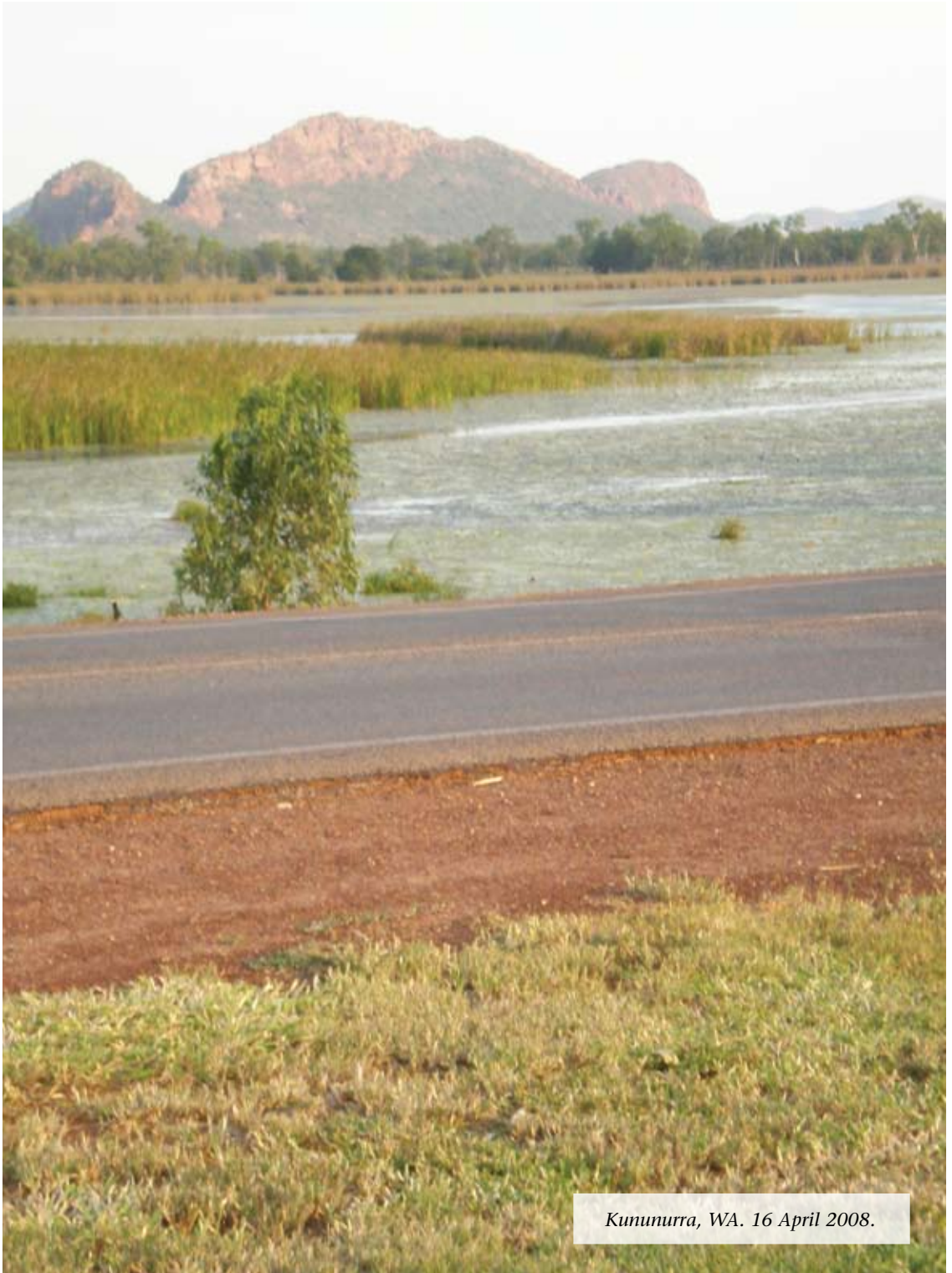
- improve telecommunications facilities for emergency service organisations,
- train and support emergency service personnel, including volunteers, in the use of telecommunications, and
- facilitate awareness raising for the general population and travellers in particular (including domestic and foreign tourists) on the limitations of terrestrial mobile phone services and the most effective means to call for help in an emergency.

Other relevant recommendations are:

- a. on developing better understanding of mobile phone coverage and limitations: Recommendation 2.1.3, and Recommendation 2.7.1
- b. on training and support generally: Recommendation 1.1.1
- c. on funding: Recommendation 3.1.6

Endnotes

- 1 Australian Communications Industry Forum, *Communication Support for Emergency Response Guideline*, Australian Communications Industry Forum, Milsons Point, NSW, 2002.
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- 3 The Low Rainfall Collaboration Group, submission, p.1.
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Kununurra, WA. 16 April 2008.

CHAPTER 1.5 — ABORIGINAL AND TORRES STRAIT ISLANDER PEOPLE

INTRODUCTION

Nearly 70 per cent of Aboriginal and Torres Strait Islander people live in regional, rural or remote areas of Australia.¹ Many Indigenous communities are in remote areas (see Figure 1.5.1). The particular nature of Indigenous communities poses specific challenges in the provision of important services such as health care, education, financial and social services. Telecommunications has the potential to improve access to these services as well as improving the day to day lives of Indigenous Australians.

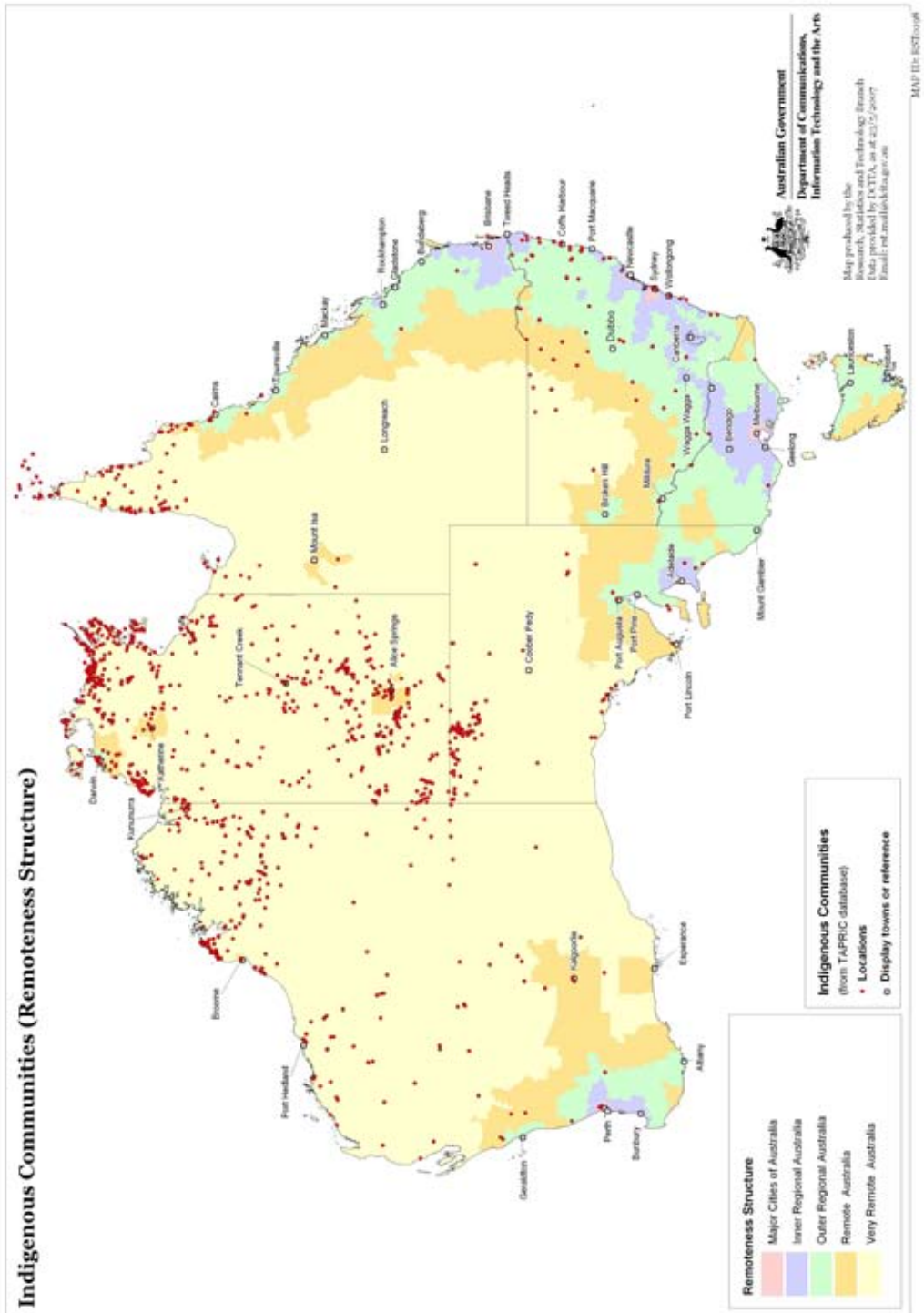
The Committee's primary focus in this chapter is on people living in remote Indigenous communities, because these people face the greatest difficulty in accessing telecommunications services.

Socio-economic indicators suggest that Indigenous people are the most disadvantaged group in Australia. Measures on health, employment and income, education, housing show that this group of Australians face significant problems.²

The Australian Government has a range of programs to address the problems faced by Indigenous people, including the 'Closing the Gap' policy³ and the Northern Territory Emergency Response Taskforce (NTERT). The Committee heard from the NTERT that both family and community are central to Indigenous cultures and that small groups frequently travel vast distances.⁴ In this regard, the Committee considers telecommunications vital for facilitating the safety and ongoing viability of the family unit in these communities.

There are Government programs specifically for improving telecommunications in remote Indigenous communities. These are the Telecommunications Action Plan for Remote Indigenous Communities and its successor program Backing Indigenous Ability. These programs have resulted in public internet access facilities being provided to 170 communities and 217 'Community Phones' in 125 communities. A Community phone is a standard handset inside a steel casing to protect it from damage. Community phones operate using prepaid cards and are available to the public at all hours. The Backing Indigenous Ability program is also providing videoconferencing facilities, training in the use of computers and the internet, and online content development to remote communities.⁵

Figure 1.5.1 Indigenous Communities⁶



SIGNIFICANCE OF TELECOMMUNICATIONS IN REMOTE COMMUNITIES

Improved telecommunications has the potential to allow easier access to health care, justice and education. A report by ACIL Tasman suggests additional investment in telecommunications infrastructure for remote communities may result in significant economic and social benefits for remote Indigenous communities. The report found,

A significant impact will be the improved effectiveness on the delivery of new arrangements in Indigenous affairs and on the success of these programs in improving social and economic outcomes for individuals.⁷

A 2007 unpublished case study by ACMA found that Tiwi Island communities saw telecommunications as vital to social and economic activity:

Respondents described telephone and internet services as integral to the functions and productivity of local businesses and local government, and essential for social connectivity and personal access to banking services, information and entertainment.⁸

Despite the potential benefits, access and use of telecommunications in remote Indigenous communities is low. ACMA found in June 2007⁹ that:

- 57 per cent of remote Indigenous communities have at least one payphone and/or community phone
- 60 per cent of the communities have private fixed voice services
- 26 per cent of the communities have terrestrial mobile coverage, and
- 22 per cent of the communities have no voice telephony services.

The above data suggests there is significant potential for improved use of telecommunications. For example, the Committee visited Nguuu on the Tiwi Islands, Daly River and Balgo. The three communities are well served by terrestrial mobile phone coverage and Nguuu and Daly River by broadband through ADSL technologies. In these communities there was widespread take-up of prepaid mobile services and almost zero take-up of broadband. There was also a very low take-up of fixed voice telephony services in homes.

Telecommunications is important for people working in Indigenous communities. The Northern Territory Government claimed that it was difficult to retain teachers, health professionals and police in remote communities without adequate telecommunications services to support them professionally and personally.¹⁰ Access to peer support and professional development and social interaction through the internet may be a way of encouraging service professionals to stay longer.

Role of Community

The Committee heard during consultations in Western Australia and the Northern Territory that Indigenous communities require a unique approach to the provision of telecommunications, not a 'one-size fits all' policy.

Indigenous communities are diverse in their demographic makeup and cultural traditions. Many different languages are spoken and behaviours that might be accepted in one community might not be tolerated in another.¹¹

BROADBAND SERVICES IN REMOTE COMMUNITIES

As noted in other chapters, broadband is important in fostering social inclusion and has potential to improve the access and quality of services such as education and health services.

Access to the internet within Indigenous communities is becoming vital to ensure delivery of services, particularly in education and health, and to keep abreast of technological advancement.¹³

However, use of broadband by Indigenous communities, even where it is available, is low. The Tiwi Islands and Daly River are examples of this. The South Australian Government noted that despite programs targeted at increasing internet access,

...there is still a lack of viable access to computers and limited capacity to use digital technology and programs in these communities. The reasons for this include lack of ongoing support programs, a perceived lack of relevant reasons to use the internet and a lack of content in Indigenous languages and which is in accord with cultural values.¹⁴

Case-study — Us Mob project

www.usmob.com.au is an Indigenous culturally-themed website on the internet that is designed to be fun and educational for both Indigenous and non-Indigenous youth.

In this website, the user creates a character and interacts with Indigenous children Charlie, Della, Harry and Jacquita who take them on adventures that differ depending on the decisions that the user makes throughout the story. There are also personal diaries of the characters to view, interactive games to play, and a wide range of topics to explore — including the kids cooking kangaroo tail and fixing push bikes.

For Indigenous youth, these websites are very stimulating as they can interact with their own culture in an online environment. It also helps Indigenous youth become more computer literate as, for some, information technology may be new and challenging. It brings Indigenous youth in contact with digital technology, as they use digital video cameras to tell their stories and personal computers and the internet to upload and view them.

For non-Indigenous youth, these sites can help foster an understanding and appreciation of Indigenous culture. Us Mob also features an online forum for discussing cross-cultural issues, which encourages young people to discuss the differences between Indigenous and non-Indigenous culture in a constructive and non-biased fashion.

Us Mob is also an online environment. Anyone can upload 'their stories' to contribute to the ones already online. This facilitates another important part of Indigenous culture, 'story telling'.

The Us Mob site also provides real training and employment opportunities for Indigenous youth in the ongoing maintenance of the site. It is a positive interactive digital media experience for both Indigenous and non-Indigenous youth that explores central Australian Aboriginal culture.¹²

The demand of ICT training and support was raised by the Centre for Appropriate Technology:

...the level of interest in IT training in remote Indigenous communities has grown significantly. However, both the approach to training delivery and the level of funding are not currently addressing this demand... This presents a challenge in finding and resourcing adequately experienced and qualified staff...¹⁵

The Committee heard at its meeting with the Balgo community that the community had received internet access services and facilities, support for basic ICT training, and funding to develop a website based on local Indigenous photography, video and storytelling. However, the community indicated they considered the broadband infrastructure material and basic level of training and technical support they were supplied as only part of the services they needed to prosper. The Balgo residents argued that appropriate accommodation of the facilities and ongoing technical support, training and staffing resources, were required within the community to help fully address their needs.¹⁶

The need for ongoing support and training with the provision of internet access was impressed upon the Committee, as there were a number of cases where internet access services and facilities have been left unused, because the equipment is unrepaired following a fault or other problem.¹⁷

The Committee heard claims that broadband services were not being taken up by Indigenous communities because of the pricing, billing and the individually focussed fixed-term contracts. It was explained to the Committee that satellite services were available but lead times associated with installation were lengthy. It was stated also that:

...the Australian Broadband Guarantee subsidy only supports relatively low speeds (512/128Kbps) and a monthly usage quota of 1 gigabyte; it is effectively targeted at individual domestic users. This is a real constraint for public services which may be shared by a whole community.¹⁸

Instances of communities paying a high price when the download limit was exceeded were raised. The Committee heard in Daly River that consideration should be given to a funding model to ensure that community access points (often non-profit organisations) are not unduly cost penalised for exceeding the monthly usage quota.

The Committee has been advised by the Department of Broadband, Communications and the Digital Economy that the ABG allows Indigenous community councils to access services as an organisation. The Committee notes that the threshold service of 1GB for the ABG has increased to 3GB since the Committee held its public consultations.

Case study — Australian Indigenous HealthInfoNet

The Australian Indigenous HealthInfoNet is an internet resource that makes published, unpublished and specially-developed material about Indigenous health accessible to policy makers, service providers, researchers, students and the general community.

The aim of Indigenous HealthInfoNet is to help improve the health of Indigenous Australians through information sharing.

Indigenous HealthInfoNet also gives users the ability to directly contact, and establish networks with other people who are both interested and knowledgeable in the area of Indigenous health, through their 'yarning places'. The 'yarning places' are both an online network and an information database, organised into specific areas of Indigenous health problem areas. These problem areas are road safety, ear health, hearing, cardiovascular disease, substance misuse, emotional wellbeing, and nutrition.

The user registers for the yarning places through an online registration form. They can then contact other members, read available information and post information on Indigenous health. The yarning places have been made available partly through funding and collaboration from organisations that work in these areas.

Although it is a peer-reviewed website, the information supplied is highly rigorous and accurate, providing up-to-date research on various Indigenous health topics. For example, the 'Summary of alcohol misuse among Indigenous peoples' has 31 references sourced from academic, government and health journals.

In every section, the user can also select an 'other reviews' link, which lists downloadable files of texts that discuss Indigenous health issues that relate to that particular area. For example, the alcohol misuse 'yarning place' lists six other major texts that address this problem.

The information available on the Australian Indigenous HealthInfoNet website is both accurate and abundant. The site is praised by health professionals — for example, Nurse Yvette Taylor writes on the guestbook page of the website:

*I found this website amazing. There is so much information, but it is set out so well that it was not a daunting experience. I am a mature age final year Bachelor of Nursing Student and I am undertaking an Aboriginal subject, as well as a remote area placement in June specialising in Aboriginal Health. This site gives me access to a huge amount of relevant information, all in one place.*¹⁹

The site is a great resource for health professionals, their Indigenous patients, and non-Indigenous Australians alike. It helps foster a better understanding of Indigenous health problems in the community, and encourages open discussion of these problems in the online environment.²⁰

Broadband may also assist economic development of remote Indigenous communities. For example, *Research undertaken by Tourism Australia indicates that the Australian tourism industry is only meeting half of the current demand for Indigenous tourism experiences.*²¹ Broadband services are currently used by Indigenous tourism businesses. The case study below was used as an example of the importance of adequate internet access by the Northern Territory Government.

Case study: Proposed Gurindji Visitor Centre at Daguragu

The Daguragu Community Government Council area, in the Victoria River region of the Northern Territory has 542 residents, of which 87.6 per cent are Indigenous. Current employment in the region is concentrated in the cattle industry and service areas for the township (that is, the butcher, baker and mechanic etc).

The area (encompassing the communities of Daguragu and Kalkarindji) is best known to most Australians as being the location of the Wave Hill walk-off in 1966 and the site of the first returning of land to Indigenous Australians by then Prime Minister, Gough Whitlam.

The community is currently exploring the viability of establishing a new tourism business, the Gurindji Visitor Centre, and an associated camping ground. Current telecommunications services in the area are inadequate and are hampering the community's efforts to develop new businesses. For example, optical fibre cable has been laid to the local exchange yet the exchange has not been enabled.²

IMPORTANCE OF MOBILE AND FIXED VOICE TELEPHONY SERVICES TO ABORIGINAL AND TORRES STRAIT ISLANDER PEOPLE

Fixed voice telephony services appear to be unpopular in Indigenous communities. A recent paper suggests that lack of mobility, billing issues and pricing as the main reasons for limited take-up. An analysis of the user environment in remote Indigenous communities shows strong evidence of a cultural misalignment between the technology and the intended user.²³

The low demand for fixed voice telephony compares to strong demand for mobile voice services. A 2007 study undertaken by the Tangentyere Council Research Hub and Central Land Council found that a significant proportion of respondents owned a mobile phone, with most opting for pre-paid services. The study concluded that, Indigenous people with limited access to fixed-line services are increasingly turning to mobile phones as a way of accessing basic telecommunications services.²⁴

This was echoed by the Northern Territory Government which stated:

*Mobiles are the product of choice in remote, and particularly, Indigenous communities. Prepaid mobile services resolve issues of customers defaulting on monthly payments and also solve problems associated with Indigenous cultural issues of resource sharing.*²⁵

A fixed telephony service may also be less useful to people who may be more mobile, moving from one place to another. This may be the case for some Indigenous families who live in different places depending upon whether it is the wet or dry season.²⁶

The Centre for Appropriate Technology stated that pre-paid home phone services are attractive to Indigenous residents, because they allow for greater control over the phone bill.²⁷ A respondent during the Tangentyere Council Research Hub and Central Land Council study stated that, *Everyone uses my phone and makes the bill bigger for me.*²⁸ Pre-paid options assist with issues related to the Indigenous communal sharing based culture which requires that all resources that one owns must be available to the entire group to use.

The Committee also heard support for the provision of fixed voice telephony services with a pre-paid payment plan option during consultations in Daly River.²⁹

The current Universal Service Obligations (USO) provides little benefit for remote Indigenous communities because of its focus on fixed telephony services, and payphones that may not be appropriate for these communities. ACMA states:

*It has been widely acknowledged that...the USO framework...[has] not been effective in increasing the availability of culturally appropriate telecommunication services in RIC's where payphones often serve as the primary [voice telephony service].*³⁰

Finding 1.5.1

Generally, Indigenous people in remote communities purchase mobile phone services in preference to fixed voice telephony services.

IMPORTANCE OF PUBLIC TELEPHONES (PAYPHONES AND COMMUNITY PHONES) TO ABORIGINAL AND TORRES STRAIT ISLANDER PEOPLE

The Committee heard at several public meetings of the importance of access to basic public telephone services in remote Indigenous communities. The provision of public access telephones helps ensure these communities have greater access to emergency services and other service providers, as well as broader communication opportunities.

The Committee has heard that demand for additional public telephones is significant. This advice has come from several sources (including the NTER, communities that have approached Telstra, and communities that have made submissions to the Australian Government for a community phone).

Australian Bureau of Statistics (ABS) data shows that a total of 454 Indigenous communities with a combined population of nearly 15 000 do not have access to a public telephone. It also states that 80 per cent of the Indigenous communities without access to a public telephone had a population of less than 50.³¹

A recent qualitative study conducted by the Tangentyere Council Research Hub and Central Land Council provides some insights into telephone use in RICs. This study involved interviews with 150 Central Australian Indigenous people. Respondents indicated that payphones and mobile phones were the most commonly used telephone services. The effectiveness and reliability of existing payphones was raised during the survey:

Many participants complained about payphones being a great distance away or out of service due to coins getting jammed in them, and also about the distance they had to walk to the next working payphone.³²

Payphones and community phones are often the only means of communications for remote communities, particularly in emergency situations. As such, the distance between these phones has a significant impact when a phone is out of service. In the Committee's view, this supports the need to consider factors other than population in identifying the locations of payphones:

...making remoteness a criterion for public phone provision in addition to population size; and increasing the 'up time' associated with phones in remote communities by employing paid locally based maintainers where possible, and designing the telephone equipment so that it is intrinsically 'low maintenance'.³³

Local, culturally aware maintenance employees could potentially improve the repair response time and also meet the needs of customers who speak English as a second language. Technicians who have an understanding of the local language and an awareness of cultural sensitivities would facilitate clearer communication and better informed customers.

The Committee heard support for community phones. For example, the Northern Territory Government stated, *Priority programs for phone services should be the provision of robust community phones with guaranteed and timely maintenance program(s)*.³⁴ However, some submitters also declared a preference for choice and the retention of coin-operated payphones (because they allow for calls without the higher capital outlay required for a phone card).³⁵

CONCLUSION

Access to adequate, reliable telecommunications is important for Indigenous communities. Mobile telephony and public phones (community and payphones) have greater relative importance than fixed voice telephony and broadband services in remote Indigenous communities.

RECOMMENDATIONS

Recommendation 1.5.1:

The Australian Government expand the implementation and maintenance of community phones, including pre-paid options for people in remote Indigenous communities.

Recommendation 1.5.2:

The Australian Government work with state, territory and local governments to implement identified telecommunications solutions to deliver services of significance to remote Indigenous communities. These services include appropriate culturally targeted awareness initiatives, education initiatives and technology support to improve broadband take-up and usage.

Other relevant recommendations are:

- a. on funding of 'community phones': Recommendation 2.4.1, Recommendation 3.1.6
- b. on expanding terrestrial mobile phone coverage: Recommendations 2.1.1, Recommendation 2.1.3

Endnotes

- 1 Australian Bureau of Statistics, Australian Institute of Health and Welfare, *The health and welfare of Australia's Aboriginal and Torres Strait Islander peoples*, ABS cat. no. 4704.0, Australian Institute of Health and Welfare cat. no. IHW2, Australian Government Publishing Service, Canberra, 2008, pp.55–56.
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- 9 Australian Communications and Media Authority, *Telecommunications in remote Indigenous communities: from Ned Kelly phones to Next Generation networks*, Australian Communications and Media Authority, Belconnen, Canberra, 2007, p.25.
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- 11 R Morsillo, 'Indigenous culture and communications: can stakeholders build a better telephone service?', *Telecommunications Journal of Australia*, vol. 58, no. 1, 2008, Monash University Press pp.05.4.
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- 16 Balgo public meeting, 17 April 2008.
- 17 Balgo public meeting, 17 April 2008.
- 18 Centre for Appropriate Technology, submission, p.5.
- 19 Y Taylor, Guestbook, Australian Indigenous HealthInfoNet, 25 October 2006, www.healthinfonet.ecu.edu.au
- 20 Australian Indigenous HealthInfoNet, viewed 14 July 2008, www.healthinfonet.ecu.edu.au
- 21 Northern Territory Tourism, submission, p.10.
- 22 Northern Territory Tourism, submission, p.11.
- 23 R Morsillo, 2008, Indigenous culture and communications: can stakeholders build a better telephone service?, *Telecommunications Journal of Australia*, vol. 58, no. 1, 2008, Monash University Press pp.05.5.
- 24 Tangentyere Council Research Hub and Central Land Council 2007, *Ingerrekenhe Antirrkweme. Mobile phone use among low income Aboriginal people: a Central Australian snapshot*, Tangentyere Council and the Central Council, Alice Springs, 2007, p.7.
- 25 Tangentyere Council Research Hub and Central Land Council 2007, *Ingerrekenhe Antirrkweme. Mobile phone use among low income Aboriginal people: a Central Australian snapshot*, Tangentyere Council and the Central Council, Alice Springs, 2007, p.7.
- 26 R Morsillo, 2008, Indigenous culture and communications: can stakeholders build a better telephone service?, *Telecommunications Journal of Australia*, vol. 58, no. 1, 2008, Monash University Press pp.05.4 – 0.5.5.
- 27 Centre for Appropriate Technology, submission, p.5.

- 28 Tangentyere Council Research Hub and Central Land Council 2007, *Ingerrekenhe Antirrkweme. Mobile phone use among low income Aboriginal people: a Central Australian snapshot*, Tangentyere Council and the Central Council, Alice Springs, 2007, p.33.
- 29 Daly River public meeting, 16 April 2008.
- 30 Australian Communications Media Authority, *Submission to Telecommunications Universal Service Obligation Review 2007, Department of Broadband, Communications and the Digital Economy*, p.16, viewed 1 July 2008, www.dbcde.gov.au
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- 33 Centre for Appropriate Technology, submission, p.5.
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Mildura, Victoria. 13 March 2008.

CHAPTER 1.6 — LOCAL GOVERNMENT

INTRODUCTION

There are more than 600 local government bodies across Australia.¹ Local government responsibilities relate mainly to the management of the health, welfare, sanitation, roads, and town planning.² Local government is the level of government closest to the community and plays a fundamental role in the economic and social welfare of the community. The purpose of local government can be summarised as:

- providing for the peace, order and good government of its municipal district
- facilitating and encouraging appropriate development, and
- providing equitable and appropriate services and facilities for the community (including infrastructure).³

Good governance is about sound economic management and monetary policy, promoting the prosperity and welfare of the region and its inhabitants, acting as an advocate on their behalf, returning dividends to the community in the way of social and economic infrastructure and ensuring the long-term sustainability of the environment.

SIGNIFICANCE OF TELECOMMUNICATIONS TO LOCAL GOVERNMENT

The availability of adequate telecommunications is a vital input to local government management, enabling them to efficiently provide services and information to their communities, function in a common technological and communications environment and to reduce administration input costs.

The Committee has heard that in many regional and remote areas, local governments' access to adequate telecommunication services varies greatly and in some cases are virtually non-existent in comparison to their more urbanised counterparts. We also heard that inadequate telecommunications services are affecting government service delivery and the access to higher bandwidth and terrestrial mobile services would dramatically improve the overall wellbeing of communities.

In regional and in particular remote areas, effective governance poses particular problems. The needs of small and relatively more dispersed populations are often not the same as those in urban areas.

- Economic activity, including employment, is dominated by primary industries and associated businesses.
- There is generally lower population growth (and in some cases, population decline) and the demographic is slanting toward older populations.
- Statistics suggest that household earnings are mostly less than the national average.
- A lower proportion of the workforce is employed in knowledge-intensive industries.
- A lower percentage of students are engaged in or complete post-secondary education, relative to the states averages.⁴

Local governments are facing a number of conflicting pressures:

- greater infrastructure needs and higher community expectations
- pressure to provide a greater range of services
- a falling, or at best static, revenue base to provide these services⁵ and
- are facing much higher input costs.

In this environment, the case for access to adequate telecommunications to improve the efficiency and effectiveness of local government services is persuasive. Many local governments in regional areas are exploring options for the provision of adequate telecommunications to address the key challenges for efficient and efficient service delivery in regional areas.⁶ The Great South Coast Economic Development Group of Councils submission states:

As a general comment telecommunications is perceived to be an issue too complex and too difficult to be addressed at a regional level by existing regional organisations... One of the key reasons that there is a lack of agitation at a regional level for improved telecommunications is the inability of the industry/government to 'sell' the benefits of telecommunications... Clearly one of the challenges for government is explaining the opportunities and threats that new telecommunications technology and applications will create for regional areas.⁷

Generally, local governments do not have the capacity to make the investments necessary to secure access to the telecommunication services they need both for themselves or the communities they represent. The provision of telecommunication services has traditionally been an Australian Government responsibility until the deregulation of many aspects of the market and privatisation of the national carrier.

In some local government areas the market does not make available the required services because there is insufficient commercial justification. Many councils are looking for opportunities to partner with industry, Australian and state governments to explore initiatives to deliver higher bandwidth services.

During the New South Wales public meetings, the Committee heard how participation from all levels of government in the planning and coordination of telecommunications is a way of addressing region-specific problems.

As the South Australian Government noted in its submission, *...collaboration between all parties is essential to achieving the best results.*⁸

This collaboration can occur on three levels: nationally, regionally and locally.

At the national level, the Online and Communications Council (OCC) operates as the peak ministerial forum across governments on national strategic policy issues for information and communications. Currently, all states and territories and the President of the Australian Local Government Association (ALGA) have a seat on the Council. It is chaired by the Minister for Broadband, Communications and the Digital Economy.

At the regional level, collaboration between different regional and local councils can make areas more attractive to providers and enable greater provision of services and infrastructure. This 'clustering' or 'aggregation' between regions may create greater economies of scale for providers in supplying services⁹ and it may improve the business case for private sector investments in telecommunications infrastructure. The Great South Coast Economic Development Group of Councils stated in its submission, *... demand aggregation for the whole region will create economies of scale.*¹⁰

Many councils engage in regional collaborations on key issues for their communities. Examples of these are the Central NSW Councils (CENTROC), and the Central West Queensland Remote Area Planning & Development Board (RAPAD). This collaboration enables local areas and regions to be proactive in developing an understanding of their own needs (in terms of skills, infrastructure and processes), and how best to address them.

The importance of collaboration was discussed by the Engineers Australia, 2007 *Telecommunications Infrastructure Report Card* which states,

In general, the market for telecommunications services in rural and remote parts of Australia cannot commercially support duplication of (or in some cases, any) infrastructure. Providing the benefits of competition (or any service in many cases) requires a government funding contribution. In this instance, government funding can be justified on the basis of benefits to the economy and community that are derived from the availability of telecommunications.¹¹

There has been a lack of coordination across Australia, with multiple surveys on telecommunications undertaken, both federally and by States and territories resulting in a lack of appropriate, market research or evidence across the country as a whole...As a consequence of having ad hoc reviews and needs assessment, there has grown a patchwork of 'fix-ups' and 'add-ons' solutions to address various telecommunications needs.¹²

The Committee considers there is a role for a collaborative approach between all tiers of government through the OCC and COAG.

Finding 1.6.1:

There is scope for more effective collaboration between all levels of government to deliver telecommunications services for local government.

Finding 1.6.2:

There is also scope to consider future telecommunications needs when planning civil construction projects such as inserting capacity into services trenches and making allowances when developing transport corridors.

At the local and regional level, there is potential for councils to work with providers of telecommunications services. This already occurs in a number of situations at the individual council level — for example, the engagement between individual councils and providers of payphones on such matters as payphone removal and with other providers on mobile phone infrastructure.

Community infrastructure provides the social backbone for every community. Communities with inferior infrastructure and limited social support services are not able to fully participate in the benefits of a strong economy and are left behind.¹³

Telecommunications is an important input for the provision of social infrastructure. It is therefore relevant to say that the absence of telecommunication services retards the ability of local governments to assist communities to develop and to remain sustainable and viable into the future.

As local governments seek to provide more effective services and expand their reach, more and more services and information sources are being moved online. As a result, telecommunications services with adequate bandwidth and coverage are becoming increasingly vital to local government. This is particularly relevant in more rural and remote areas where more services are provided from a centralised service centre or locality across large distances to remote constituents.

It has been suggested that local governments with access to broadband and other telecommunications services can act as ‘anchor tenants’ for providing affordable broadband and other services to the broader community, leveraging off the infrastructure in place to provide access for government.¹⁴

The Committee has heard through public meetings and submissions how access to adequate telecommunications has the ability to enable communities to participate in the digital economy, and the importance of equitable access to ensure that some regions with possible greater need of services (where distance is making access to professional health, educational and legal services prohibitive) are not left behind.

The Committee suggests that greater cohesion between authorities at all levels on policy direction, planning and development activities can provide enhanced access to adequate telecommunications. Examples could include integrating telecommunications infrastructure roll-out as part of major transport works in regional areas, and planning service connectivity for major ‘greenfield’ residential site development.

IMPORTANCE OF MOBILE COMMUNICATIONS FOR LOCAL GOVERNMENT

The Committee has heard how mobile telephony is an important input to local government, allowing people to stay in touch, particularly those who work remotely as part of their job.

Case study — Barcoo Shire Council

Barcoo Shire Council would welcome improvement to communications within the Shire.

Having a land area in excess of 60 000 square kilometres and some 2500 kilometres of road length to maintain, Council faces difficulties in managing its workforce and construction projects in remote locations, owing to the lack of mobile telephones.

Satellite telephones have their limitations, requiring line of sight for reception. This means that they can only operate from a vehicle and not in the camp. Data is not able to be transmitted, so Council is handicapped to the extent that timesheets etc. have to be physically transported to the office. As I and my senior staff move around the Shire, communication is lost between each other, and with the administration centre. This causes delays in responding to community enquiries. Further, employees are unable to have contact with their families whilst in camp, due to the prohibitive cost of satellite telephone calls.

The functionality of the three office locations is limited through a lack of broadband other than satellite. Council would prefer to have all offices connected via a reliable network, therefore allowing the integration of its operations over the three locations, instead of having to physically locate administration staff in the Jundah office. This would make better use of staff resources and equipment.¹⁵

Case study — Yetman

Yetman, on the Macintyre River, only has a few hundred people in the district and virtually no terrestrial mobile phone coverage. Kate Dight, a local teacher, farmer's wife and mother of three, described the coverage as *Haphazardly one bar of service*.¹⁶

Yetman is also a black spot for emergency services radio networks. As a result, a year ago Mrs. Dight organised a meeting of key players to work out what could be done.

The outcome was a telecommunications tower worth \$150 000, mostly paid for by the NSW Police. Inverell Council, the State Emergency Service, the Ambulance Service and the National Parks and Wildlife Service also provided (funding) support.

With others supporting the cost of constructing the tower, a communications carrier has promised to provide the mobile phone base station.

This will mean:

- any persons experiencing emergency situations on the Bruxner Highway will have contact with emergency services
- Yetman's sole police officer will be contactable at all times
- the local authority can better respond to community needs
- farmers will be able to use technologies such as remote sensing water-saving soil moisture probes when irrigating, and
- members of the community will be able to conduct business and stay in touch

Mrs. Dight believes that the availability of innovations in technology such as faster and mobile wireless broadband and 3G mobile phones will help attract young people to the district and deter resident youth from leaving the district, *...it makes our whole future different. Otherwise you get left in the boondocks*.¹⁷

This example demonstrates how collaboration between interested parties can achieve a satisfactory resolution in a regional area without necessitating intervention from the Australian government.

IMPORTANCE OF BROADBAND FOR LOCAL GOVERNMENT

Broadband has the capacity to facilitate the more efficient provision of government services to the community and, at the same time, allow local governments to be better informed of their community's needs and more able to adapt to meet those needs. The Central West Queensland Remote Area Planning and Development Board submission noted the importance of broadband service provision:

The government should support implementation strategies that align broadband demand from all three levels of government to maximise demand for specific towns and regions. The present practice of separate and independent supply arrangements has a detrimental impact on establishing an aggregation demand base in areas of low broadband service provision.¹⁸

As discussed previously in this chapter, a 'joining up' of government is essential to improving e-delivery and quality consumer services, business productivity and the delivery of government services.¹⁹

The Committee has heard the benefits of going online include:

- extended and enhanced service delivery capabilities for local government to the community
- efficiency and productivity gains, reducing the cost of service delivery
- a greater level of communication and interaction between local government and the local community
- an enhanced community leadership and economic development role for local government (particularly in regional areas), and
- the ability to work more effectively across levels of government in delivering coordinated whole-of-government services at the local level.²⁰

The Windorah Development Board submission noted:

Broadband and fast videoconferencing would allow for interviews to take place without customers travelling hundreds of kilometres. Benefit: access to government services otherwise not available unless residents are willing to travel; more support available to isolated people; residents not left to feel isolated in remote areas. Result: people prepared to live in remote areas creating a more sustainable community.²¹

In addition, the Central West Queensland Remote Area Planning and Development Board submission stated that:

RAPAD believes that demand brokers remain funded for the immediate future to support broadband uptake and aggregation and focus on development and facilitation of effective use strategies... Capacity building is best undertaken by locally based non-aligned personnel, with strong links to state agencies.²²

The Committee considers access to appropriate broadband (and other) services is essential to the efficient delivery of current and future government services in regional areas.

Finding 1.6.3:

Local government services in regional areas require access to appropriate telecommunications to better support the provision of services and information to their communities.

IMPORTANCE OF FIXED VOICE TELEPHONY AND PAYPHONES FOR LOCAL GOVERNMENT

Local government can have a significant role in relation to payphones in regional areas. The Committee heard, at the majority of meetings, that payphone removal was a concern to residents and local councils. They were seeking an appropriate process for engagement and consultation to minimise the impact of removals on the telecommunications capacity in their regions.

ACCESS TO SKILLS AND TRAINING

A critical issue for local government is access to people with sufficient skills and training in information and telecommunications technologies and applications. The South Australian Government noted:

Training and support services are vital. The Outback Connect program in South Australia has demonstrated the need to provide technical support in remote locations.²³

In a relatively tight employment market, local governments are competing with large resource companies and the private sector for skilled workers. This is in addition to the ongoing problem of attracting and retaining young skilled people in regional areas.

Local governments in remote areas could leverage their access to broadband capacity to enable additional access and services to their employees. This is further highlighted in Chapter 1.1 — Social Inclusion.

Finding 1.6.4:

The availability of sufficiently skilled and trained staff is important for effective government service delivery and knowledge transfer in regional areas, and can be enhanced through the provision of better telecommunication services.

Finding 1.6.5:

There is scope for local government The Australian Government, and in fact government at all levels, to promote in regional areas the benefits of facilitating access to broadband services for government employees through infrastructure already available.

CONCLUSION

Local governments in regional Australia are working to better the quality of life and opportunities in their communities. Adequate telecommunications are important prerequisites to achieving this.

There are many difficulties in providing local government services in many areas, including access to skilled staff, their retention and training. Improved telecommunications can assist.

The Committee considers better collaboration between all tiers of government will enhance the opportunities for greater efficiencies and more innovative solutions for service delivery in many regional areas. Participation by local governments as a partner in federal and state/territory programs to provide the local input can result in the most cost-effective outcome.

SUMMARY OF FINDINGS

Finding 1.6.1:

There is scope for more effective collaboration between all levels of government to deliver telecommunications services for local government.

Finding 1.6.2:

There is also scope to consider future telecommunications needs when planning civil construction projects such as inserting capacity into services trenches and making allowances when developing transport corridors.

Finding 1.6.3:

Local government services in regional areas require access to appropriate telecommunications to better support the provision of services and information to their communities.

Finding 1.6.4:

The availability of sufficiently skilled and trained staff is important for effective government service delivery and knowledge transfer in regional areas, and can be enhanced through the provision of better telecommunication services.

Finding 1.6.5:

There is scope for local The Australian Government, and in fact government at all levels, to promote in regional areas the benefits of facilitating access to broadband services for government employees through infrastructure already available. These benefits include greater social inclusion and the opportunity to attract and retain staff.

RECOMMENDATIONS

Recommendation 1.6.1:

The Australian Government facilitate greater involvement of local governments in the design and delivery of initiatives to promote greater access to telecommunications infrastructure in their area.

Recommendation 1.6.2:

The Australian Government work with state, territory and local governments on promoting greater access to training in information and telecommunications technologies for people in regional and remote areas.

Endnotes

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- 20 Australian Local Government Association, *Australian Local Government's Broadband Action Plan*, May 2008, p.2 www.alga.asn.au
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CHAPTER 1.7 — PRIMARY INDUSTRY & COMMERCE

INTRODUCTION

Primary industry production is the transformation of natural resources into primary products. It includes agriculture, agribusiness, fishing and forestry. In many cases this transformation is initially done by family owned and operated businesses. The manufacturing industries that process, purify, aggregate and package the materials are also normally considered part of this sector.

Primary industry is essential to regional economies and the returns from this industry underpin the viability of most regional communities. Access to adequate telecommunications is important to the future growth and viability of many parts of the industry. An important aspect of this is access-to-service standards that enable business-grade connectivity.

SMALL TO MEDIUM ENTERPRISES

SMEs make up 95 per cent of all businesses in Australia¹ and include many agriculture businesses. Most small businesses have limited resources and look to technology to assist them complete tasks and save valuable time and money. The Small Enterprise Telecommunications Centre Limited's submission on broadband solutions for remote areas, states that the problem for many small businesses is not only the affordability of technology services but also access to the appropriate training to use the technology effectively.²

The Committee heard at a number of public meetings that access to adequate telecommunications is essential for regional business, as access to business-grade applications can enhance the performance and opportunities for businesses in regional areas.

NATURAL RESOURCE MANAGEMENT

The sustainable management of Australia's natural resources (land, water, marine and biological systems) is vital if we are to ensure our ongoing social, economic and environmental wellbeing.³ Natural resources are important to all resource sectors

including primary industries and the Committee notes the development across all levels of government of an integrated Natural Resource Management Plan.

Resource management has created an industry in its own right. National parks, conservation zones and natural assets (such as water) require management and employ significant numbers of people in regional Australia.

The Committee notes the important role that telecommunications can play in monitoring and managing environmental assets, and improving the efficient and sustainable usage of our scarce natural resources.

SIGNIFICANCE OF TELECOMMUNICATIONS TO PRIMARY INDUSTRY

Adequate telecommunications services are an important input to the efficient operation and productivity of this sector, which has an estimated annual gross value of:

Agriculture Sector	\$35.6 billion
Forestry Sector	\$18.1 billion
Fishing Sector	\$2 billion
Aquaculture	\$375 million. ⁴

Primary industries and SMEs in regional Australia are increasingly reliant on technology, and as new technologies are being developed these will require improved infrastructure and training to support their applications. As the Australian Local Government Association suggests:

At an enterprise level it is well understood that sustained competitiveness requires using internet at best practice intensity to minimise costs and maximise the rate of innovation.⁵

Finding 1.7.1:

Access to adequate telecommunications and training is important to the future growth and viability of many parts of the primary industry sector and SMEs. An important aspect of this is access to service standards that enable business-grade connectivity.

IMPORTANCE OF MOBILE COMMUNICATIONS TO PRIMARY INDUSTRY

Employees in the primary industry sector, and many other businesses in regional areas, are required to be mobile and need connectivity to support business operations. This was highlighted in numerous public meetings by farmers who need to contact contractors to harvest their crops. Mobile communications services are very important in catering for the needs of specific farming applications (for example, broadacre farming). Mobile services can reduce costs and improve the competitiveness of businesses.

The Committee heard at the Horsham public meeting from a grain harvesting contractor who had lost a contract worth \$20 000 due to the contractor's mobile service being unreliable. In this instance, a business decision needed to be made in a short timeframe and the prospective customer found an alternative contractor when they could not contact the original contractor via his mobile phone.⁶

The Committee also heard from a bed and breakfast operator who said that they lose many customers because they do not have a good mobile phone service. If they are not able to answer their fixed voice service straight away, customers tend to find somewhere else to stay.⁷

The Committee also heard concern of workers in regional areas not being contactable for both safety and business reasons, regardless of their locality and the nature of their work.⁸ According to Farm Safe Australia, workers compensation claim rates for agriculture and services to agriculture are among the highest of any industry. There are more than 100 deaths and 5000 compensation claims each year of workers in the agriculture and horticulture industries.

The Committee heard of concerns regarding the adequacy of mobile coverage to call for help if there is a farm accident.⁹ Agri-businesses and many regional businesses tend to involve working away from a fixed voice telephony service and performing physical or field-based labour. The nature of primary industries is moving towards fewer staff and greater use of machinery. This means that more people working on farms are working alone. For example, in Broken Hill, the Committee heard from a representative of New South Wales Parks and Wildlife Service, who spoke of concerns they have with their work in remote areas and not having an appropriate mobile phone service. In many cases, their work requires them to work alone in remote areas for several days at a time.¹⁰

The concerns raised about the lack of terrestrial mobile coverage underscore the need for appropriate technology and services to be provided for the intended use. To some extent it indicates the need for increased awareness of the limitations of the terrestrial

networks, in particular that hand-held terrestrial coverage is likely to be less than 15 per cent of Australia's landmass. This is discussed further in Chapters 1.4 — Emergency Services and Chapter 2.1 — Mobile Communication.

As noted in Chapter 2.1 — Mobile Communication, there are a number of mobile services currently available that provide coverage for hand-held phones Australia-wide using satellite technologies. For example, the Committee is encouraged by the Thuraya dual band handset and satellite-GSM mobile services becoming available on the market. This service will provide coverage Australia-wide via the Thuraya satellite and GSM coverage when in range of an Optus GSM terrestrial base station.¹¹

It is important for people conducting business or working in regional areas to have a mobile service that is functional in the areas in which they work. In particular, employers with employees working in regional areas may need to consider whether the mobile phone provided to their employees is appropriate for the area in which their employees work and sufficient to address potential occupational health and safety matters.

Finding 1.7.2:

Most primary industry and regional businesses are field-based and require effective mobile service to ensure customer and supplier contact, as well as for employee occupational health and safety.

IMPORTANCE OF BROADBAND TO PRIMARY INDUSTRY

The Committee heard from submissions and public meetings that people who work in primary industries need adequate telecommunications to successfully operate their businesses. Uses include weather condition updates, online banking, purchasing, marketing, production-based research and development, National Livestock Identification System database monitoring (this is a compulsory national tracking system crucial for bio-security monitoring), telemetry uses, remote monitoring, and financial management.¹²

The Committee notes the availability of adequate broadband services is dependent upon sufficient capacity in the network, particularly backhaul. Capacity limits on backhaul can effectively preclude the provision of improved terrestrial mobile services, point-to-point wireless voice and broadband and other services. This issue is discussed further in Chapter 2.5 — Backhaul.

Table 1.7.1: Solutions, 2007 research into the take-up and impact of broadband¹³

Internet use among rural producers and farm businesses (Data represented as percentage of survey respondents)	2006	2007
Weather information	47	44
Banking	47	47
Email	23	21
Agronomy information	15	18
Product information	14	12
Other agricultural information	14	11
Livestock market information/sale details	13	16
Selling/trading	11	9
Paying bills	11	14
Machinery market information/sales	11	10
Purchasing goods and services	10	6
Education/general research	8	6
Grain prices	8	14
Financial information, for example, interest rates and exchange rates	7	5
Unspecified commodity prices/market reports	7	4
Information on world agricultural trends	6	9
Share market	6	6

A particular concern in some areas is the reliance on the existing wireless network based on technologies such as Digital Radio Concentrator Systems (DRCS) or High Capacity Radio Concentrator (HCRC) point-to-point radio systems. This equipment has been in place for some time and is, in some instances, only delivering speeds and data capacity on or just over the minimum service standard of 12kbps. Some telecommunications equipment such as facsimile machines do not operate well at these low speeds and have to be reprogrammed by the manufacturer to work, if they can be supported by the network at all.

Furthermore, as many of the services provided on these wireless backhaul networks are on a spur line, any fault or break in connectivity results in service disruptions. This compares with other areas where a break in a backhaul link does not necessarily result in service disruption as the communications traffic can be routed through another link.

The Committee is of the strong view that urgent action is needed to ensure infrastructure in rural and remote areas particularly, is sufficient to meet the needs of primary industry and people associated with primary industry. Recommendation 3.1.7 in Chapter 3.1 — A New Framework, sets out a process for how this should be accomplished.

Electronic banking transactions are an essential in regional areas. Not only is there an expectation that electronic banking is available as a mean of payment for products for face-to-face sales, electronic banking is essential for remote sales. For example, a small business operator stated:

30 per cent of my business relies on EFTPOS [Electronic Funds Transfer at Point of Sale]. When my lines are down, I lose 30 per cent of my business.¹⁴

The majority of farmers that use the internet and are able to identify their type of connection, have a dial-up connection (43 020 farms). A further 12 287 farmers stated that they have a broadband connection and 8565 said they are using ISDN. The most used broadband connection identified was satellite.¹⁵

The Committee heard throughout its public meetings program that, in many areas broadband infrastructure is regarded as insufficient to allow farmers to grow and conduct their business in a cost effective manner.

The Hunter Economic Development Corporation submission to the Review states:

Telecommunications infrastructure is key to continued industry sector growth and the well being of the community allowing participation in the information economy at all levels. Whilst the Hunter has improved such infrastructure in the last few years through the introduction of ADSL by Telstra, federal and state government projects and the establishment of local carrier services by other companies, access to broadband, mobile services and good quality fixed-line infrastructure in rural areas of the Upper Hunter is still a major issue.

Finding 1.7.3:

Ageing backhaul infrastructure, particularly low speed radio links, need to be upgraded to support adequate telecommunications services.

Finding 1.7.4:

Appropriate broadband, in terms of access and price is essential for regional SMEs and primary industries to compete effectively.

Some examples of how new technologies are important for primary industry and which rely on adequate broadband services are set out below.

1. Radio Frequency Identification Devices for livestock

Radio-Frequency Identification Devices (RFID) is an automatic identification method, relying on storing and remotely retrieving data using devices called RFID tags or transponders.

An RFID tag is an object that can be applied to, or incorporated into, a product or animal for the purpose of identification using radio waves. Some tags can be read from several metres away, and others beyond line of sight. Today, a significant thrust in RFID use is in enterprise supply chain management, improving the efficiency of inventory tracking and management.¹⁶

Among other purposes RFID technology is used to monitor livestock. RFID systems track meat and dairy animals, valuable breeding stock and laboratory animals involved in lengthy and expensive research projects. The Australian National Livestock Identification System is the first and the largest implementation of RFID for animal tracking in the world.¹⁷ This data can be fed directly to a computer via a mobile phone to provide real-time monitoring capability.

RIFD relies on telecommunication services to realise its full capacity for the business and the industry.

2. Precision agriculture

Precision agriculture integrates a suite of technologies, leveraging off broadband to enable more efficient use of large-scale mechanisation, while recognising local variations in conditions and requirements. By using satellite data to determine soil conditions and plant development, these technologies can lower the production cost by fine-tuning seeding, fertiliser and chemical application and water use, and potentially increase production returns.

Precision agriculture can have significant impacts far beyond the individual farm. Excess agricultural chemicals applied to agricultural crops can pollute the environment. Use of precision agriculture technologies has the potential to reduce the volume of chemicals applied, as it focuses application more efficiently and minimises the impact on the environment.¹⁸

Geographic information systems (GIS) and global positioning systems (GPS) are computerised systems used to store, record, analyse, and produce maps and geographic products based on spatial data. They use satellites and terrestrial stations to provide precise location and navigation information.

Most commonly used as a directional system, these systems are now being used for a variety of tasks for primary industries, including monitoring harvests and crop yields, seeding, fertiliser applications, fencing, paddock and farm planning, and weather information.¹⁹

3. Automated feeding systems for the aquaculture industry

The CSIRO is developing automated submersible sensors that can accurately measure the feed consumed by prawns being grown in aquaculture farms and help farmers decide how much feed should be given at the next feeding. The industry currently uses a variety of methods for measuring feed consumption, all of them manual and labour intensive.

The two major inputs into prawn farming in Australia are feed pellets and labour. The efficiency of the industry can be improved by reducing these costs. Sensors that provide continuous information about feed consumption in prawn ponds will:

- reduce overfeeding of farmed prawns
- reduce nutrient levels in farm effluent, reducing the environmental impact of prawn farming
- provide better information on the feeding efficiency of farmed prawns
- improve the health of farmed prawns and reduce the use of antibiotics in countries that permit their use (antibiotics are not used routinely in Australian aquaculture), and
- enable better selection of brood stock for breed engineering.²⁰

Other regional businesses — secondary/tertiary

Businesses in regional areas are just as diverse as those in the city. As a part of the Review, the Committee received submissions and consulted with a variety of businesses not directly related to agriculture, in regional Australia, inclusive of retail merchants and health and beauty professionals.

Standen and Sinclair-Jones research into eWork in regional areas found businesses — such as telemarketing, data processing, ICT services, accounting, human resource management and editing — being done in regional areas but servicing people Australia-wide and in some cases globally.²¹

Ensuring that there is access to services in these areas is critical to regional development. As well as community services, it is important to retain businesses that provide services and goods such as food, entertainment and pharmaceuticals.

Case study — Horsham Colour takes on the global market from regional Australia

Horsham Colour is a business in regional Victoria that provides commercial photo processing and printing services to professional photographers and companies based in Australia and in 71 locations globally. The bulk of their customer interface is via the internet or telephone.

Horsham Colour is important to the local community because they employ 54 staff, pay more than \$1.3 million in wages and, where possible, support other businesses in the district.

To continue operating a business of this nature, they need metro-comparable communications or their urban competitors will gain an edge over their business. Currently Horsham Colour must print in Horsham and transport to Melbourne and beyond because they are unable to email large graphic files over their internet connection.²²

The Australian Government's *2004 Regional Australia Business Action Plan* recognised investment in, and maintenance of, critical infrastructure such as water and utilities, transport, telecommunications, and soft infrastructure such as training, education and health services are vital to the future of regional Australia. They enable regional businesses to source skills and inputs and deliver their goods and services to market here and overseas.²³

The Committee is concerned that, without adequate telecommunications, these businesses will leave, taking services, jobs and income away and leaving regional Australians socio-economically disadvantaged.

Working at a distance

The importance of telecommunications in facilitating home-based work was mentioned in Chapter 1.1 — Social Inclusion.

For many regional areas, employment opportunities for professional women are low. Telecommuting in particular provides women (those who come from the regional area and those who move to regional areas for family/personal reasons) greater opportunity to participate in their profession, retain professional employment and add value to the economy.

Finding 1.7.5:

Adequate telecommunications, with training and support, can maximise the full potential of businesses in regional areas.

CONCLUSION

Primary Industry and businesses in regional Australia face many challenges. Isolation from other businesses, consumers and markets; accelerated costs for business requirements such as the internet; and travelling longer distances and being field based all impact on the bottom line of regionally-located businesses.

The Committee was encouraged by many of the initiatives that regional businesses have implemented to overcome these problems, and the opportunities that have been created. Many businesses are placed at a competitive disadvantage by being located in regional areas and cannot compete effectively if they do not have access to telecommunications infrastructure and services of comparable standards and price.

The Committee believes that an adequate telecommunications network is an essential requirement for ensuring the ongoing competitiveness and viability of regionally-based businesses and the primary industry sector.

SUMMARY OF FINDINGS

Finding 1.7.1:

Access to adequate telecommunications is important to the future growth and viability of many parts of the primary industry sector and SMEs. An important aspect of this is access to service standards that enable business-grade connectivity.

Finding 1.7.2:

Most primary industry and regional businesses are field-based and require effective mobile services to ensure customer and supplier contact, as well as for employee occupational health and safety.

Finding 1.7.3:

Ageing backhaul infrastructure, particularly low speed radio links, need to be upgraded to support adequate telecommunications services.

Finding 1.7.4:

Appropriate broadband, in terms of access and price, is essential for regional SMEs and primary industries to compete effectively.

Finding 1.7.5:

Adequate telecommunications, with training and support, can maximise the full potential of businesses in regional areas.

RECOMMENDATIONS

Recommendation 1.7.1:

The Australian Government work with state and territory governments to ensure that infrastructure is capable of supporting adequate services for business use in rural and remote areas.

Other relevant recommendations are:

- a. on improving terrestrial mobile services: Recommendation 2.1.1, Recommendation 2.1.3
- b. on improving software and applications for satellite broadband: Recommendation 2.2.2 (b), and
- c. on improving regional telecommunications infrastructure: Recommendation 3.1.1 and Recommendation 3.1.7.

Endnotes

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CHAPTER 1.8 — TRANSPORT

INTRODUCTION

In broad terms, transport is the movement of goods and people from an origin to a destination.¹ Governments, local authorities and industry groups use information about many aspects of transport to support planning and investment decisions.² Transport information is also a key input to safety and awareness campaigns targeting transport issues and road safety.

Access to mobile communications and broadband is important in enabling efficient and effective transport services to people in regional areas. Effective telecommunications services are important to:

- non-commercial travellers, including domestic and foreign tourists
- commercial transport, facilitating more efficient freight performance and allowing regionally-based businesses to more effectively compete in the marketplace, and
- reduce the need for the transport of goods and information, through high-quality telecommunications connectivity.

SIGNIFICANCE OF TELECOMMUNICATIONS TO TRANSPORT

Telecommunications can be one way for travellers to inform themselves of their destination, road conditions and maintain contact with home and family.

Telecommunications is also critical in seeking assistance in cases of emergency or for breakdowns.

Telecommunications contribute to a more efficient transport framework,³ through better coordination and logistics, better scheduling of services and more efficient inter-modal coordination (particularly between road and rail platforms). Sixty five per cent of Australia's export income is derived from regional areas,⁴ and these goods must be brought to market as efficiently as possible. In 2004–05, the transport and storage industry's share of total Gross Domestic Product was 4.5 per cent.⁵ Australia's freight task is expected to almost double over the next 20 years.⁶

Additionally, more efficient commercial transport will decrease the impact of additional trucks on our roads, improve road safety with better managed deadlines, and decrease the impact on roads and other infrastructure. This concept is significant as local government spends more than \$3.5 billion on local roads each year, in addition to about \$307 million of Australian Government funding per year under the Roads to Recovery program.⁷

Access to high capacity telecommunications in regional areas can:

- maximise the effectiveness and productivity of supply chains and capital potential
- allow businesses to overcome the comparative disadvantage of their distance from urban markets, and
- enable businesses to extend their market beyond the immediate town or district, to successfully compete nationally and globally.

Telecommunications can play an important part in reducing environmental costs of the transport sector. This can be achieved by both facilitating more efficient freight and transport in regional areas, thereby reducing the needs of additional transport on our roads and railways, as well as enabling products such as documents to be transported electronically and reducing the need for high volume freight from some regionally-located businesses such as printers.

As highlighted in the case study in chapter 1.7, Horsham Colour is a commercial photo processing and printing service that serves customers in Australia and overseas. The bulk of Horsham Colour's customer interface is via the internet and telephone, requiring effective telecommunications to remain competitive.⁸

The greater use and availability of telecommunications in regional areas has enhanced the ability to transport documents and information electronically. These activities are reliant on sufficient bandwidth being available. The increased use of technology for information and document transfers would improve the efficiency of many services in regional areas and provide many of the other benefits discussed here, such as increased road safety and reduced environmental impact.

However, these developments may also have an economic cost on those companies that provide freighting services in regional areas, particularly those that may have specialised in freighting small parcels and documents.

IMPORTANCE OF MOBILE COMMUNICATIONS TO TRANSPORT

The Committee understands that people place a high value on mobile communications services while travelling and of the concern in relation to the extent of terrestrial mobile coverage. For example,

The National Highway corridors see a large amount of traffic over the summer and holiday periods, and yet there are still blackspots where there is no coverage at all. This is not improving in a significant way. People's lives could be saved if there was better mobile coverage in remote Australia.⁹

Coverage along transport routes requires priority attention, due to significant travel demands placed on rural communities, the large distances between populated areas, limited provision of payphones and the increased likelihood of distress calls being made from roads and surrounding areas. It is reported as a common experience for mobile phone coverage to be inconsistently available along the same stretch of road in regional areas.¹⁰

Case Study — Regional highway mobile phone coverage

On Saturday, 3 May 2008, at about 12.35pm, my wife and I were travelling south from Geraldton along the Brand Highway. Approximately 40 kilometres south of Geraldton, we came across a horrific accident that had occurred between a truck with three trailers and a vehicle towing a boat. With one person deceased and another seriously injured from the vehicle and two of the trucks trailers overturned on the highway, emergency assistance was urgently required... I think the truck driver and other members of the public who arrived at the scene had no or limited success in getting phone reception to call for help. I believe a member of the public drove to a farm to call 000 and other truck drivers used their CB radios to call for assistance.

As a 'city-living' member of the public, I believe that the minimum service that should be available to all Australians, both to those who live in the country, and all those others who may just travel on our highways, is at least one mobile telephone network to cover all who may need phone coverage for whatever need, but in particular, contacting emergency services, should any others be in the position we were in last Saturday.¹¹

Concerns about the extent of mobile phone coverage are discussed in a number of places in this report (see for example, Chapter 1.4 — Emergency Services), and more fully in Chapter 2.1 — Mobile Communications. The issues on this matter are complex. Part of the problem is the success of mobile telephony and the significant benefits this service delivers to consumers where service coverage is available. However, hand-held terrestrial coverage is likely to be less than 15 per cent of Australia’s landmass, and around 25 per cent with the use of a car-kit with an external antenna. This is in stark comparison to the promotion of coverage by the industry which implies that terrestrial coverage is much more extensive. Importantly, while it may be desirable for terrestrial mobile phone coverage to be extended, it would be extremely costly for the nation to extend the coverage to any substantial extent. The limited coverage today has only been achieved with substantial public subsidies.

At the same time, there are a number of mobile services available that provide coverage for hand-held phones Australia-wide using satellite technologies. For example, the Committee is encouraged by the Thuraya dual band handset and satellite-GSM mobile services becoming available on the market. This service will provide coverage Australia-wide via the Thuraya satellite and GSM coverage when in range of an Optus GSM terrestrial base station.¹²

Nevertheless, there is potential for further terrestrial mobile phone coverage extension where costs of installing additional base stations can be substantially reduced through the upgrade of backhaul infrastructure. This issue is discussed in Chapter 3.1 — A New Framework, which recommends how such an infrastructure upgrade should occur.

The Committee is most concerned that people’s expectations in relation to the extent of mobile coverage are not being met, and that not enough is being done to ensure travellers are aware of the limitations of terrestrial mobile services, what appropriate services are available, and the most effective way to call for assistance on regional roads.

Finding 1.8.1:

Mobile communications are important to travellers on regional roads. More needs to be done to raise awareness of the limitations of terrestrial mobile phones and the most effective way to call for assistance on regional roads.

IMPORTANCE OF BROADBAND TO TRANSPORT

Technology is changing the way people expect to communicate and access information during their travels. Already travellers are accessing the internet wherever they go, through mobile phones and converged devices, and through wireless cards in their laptops. Wireless internet technology, in particular, has many potential benefits for travellers, as users can get online anywhere at anytime, if within coverage area, with the use of their laptop computer. Use of wireless internet as a whole in Australia is on the rise:

Wireless technology continues to increase to over 481 000 subscribers at the end of the December 2007 quarter, compared with 186 000 subscribers at the end of the September quarter 2006.¹³

Although wireless technology is important, internet connections at Visitor Information Centres and popular tourist locations are also important. Increasing numbers of travellers are accessing information when they arrive at a destination to find directions, restaurants, accommodation and attractions.

Travellers are also booking elements of their travel post-arrival. In this changing world, it is important broadband access is available at Visitor Information Centres and wireless hotspots so consumers can access technology-based information and make real time bookings and find information on demand... For example, without access to reliable and affordable telecommunications, businesses in regional areas of the Northern Territory and Indigenous communities are hampered in their ability to compete effectively with urban tourism businesses.¹⁴

The Committee has heard how increasing numbers of international tourists arrive in Australia and expect to access the internet at any location to plan their future activities and keep in touch with family and friends back home.

The Committee notes the importance of ensuring the telecommunications needs of regional communities are met. However, some parts of regional Australia do not have static populations and in many cases, experience significant arrivals of tourist traffic or temporary workers to their region. The Committee considers such developments should be acknowledged by industry in considering making investments in specific regions, and that such considerations should not just be based on the resident population.

Finding 1.8.2:

The assessment of telecommunications needs of specific regions needs to incorporate the impact on transport operators, tourism and temporary workers in regions.

The Committee considers that, to some degree, public access internet services may help address the requirements of tourists and temporary workers in some regions. In-built facilities such as Bank@Post and other community facilities can be used to enable tourists to do their banking and other transactions. However, as discussed further in Chapter 1.4 — Emergency Services and Chapter 2.7 — Consumer Awareness, it is important for tourists and travellers in regional Australia to make themselves aware of the level of telecommunications accessible in those regions, and to plan accordingly. The Committee considers that tourism operators, telecommunications service providers and state and territory governments can work together to better manage expectations more effectively in this regard.

Travel agents are under pressure to come up with more sophisticated holiday packaging as a surge in the number of people booking air fares and accommodation online shakes up the country's \$2.7 billion travel services industry... Tourism Australia estimates that about 25 per cent of Australians use the web to book holidays, and a number of studies have suggested that the percentage of all domestic and international travel sold through the internet will jump from 6 per cent in 2002 to 30 per cent come 2012.¹⁵

Improved use of other regional infrastructure developments

The Committee considers there is potential for increased coordination across transport infrastructure builds in regional areas, to enable particularly fibre but also other telecommunications infrastructure to be rolled-out as part of these major works programs.

Although this is not only confined to transport infrastructure (such a principle can be applied to major construction activities as well), the Committee considers it especially relevant for enabling increased backhaul and linking capacity from major centres to communities, as road and rail builds often pass through or very close to these regional communities. The Committee notes the activities of Queensland Rail and others who have undertaken such activities in the past.

Finding 1.8.3:

Telecommunications infrastructure could be improved in regional areas through greater coordination with other major infrastructure works.

IMPORTANCE OF PAYPHONES TO TRANSPORT

As discussed in Chapter 2.4 — Payphones, payphones are an important access point for travellers and tourists. The Committee heard in Narrabri how travelling retirees or ‘grey nomads’ make use of payphones to stay in touch or to plan their activities. For them, payphones are a more cost-effective means of communication.

Payphones offer commercial transport operators a communications option if they do not have mobile coverage or cannot make contact while in transit.

CONCLUSION

Access to efficient, high-capacity telecommunications infrastructure is an essential component of an effective transport system.

For most regional, rural and remote localities, road freight remains the primary source of value-add goods and services.

Travellers need better information on appropriate communications.

SUMMARY OF FINDINGS

Finding 1.8.1:

Mobile communications are important to travellers on regional roads. More needs to be done to raise awareness of the limitations of terrestrial mobile phones and the most effective way to call for assistance on regional roads.

Finding 1.8.2:

The assessment of telecommunications needs of specific regions needs to incorporate the impact on transport operators, tourism and temporary workers in regions.

Finding 1.8.3:

Telecommunications infrastructure could be improved in regional areas through greater coordination with other major infrastructure works.

RECOMMENDATIONS

Recommendation 1.8.1:

The Australian Government work with state, territory and local governments to better incorporate the roll-out of telecommunications infrastructure, such as the roll-out of optical fibre during railway extensions and upgrades to services and the planning of other major infrastructure developments in regional areas.

Other relevant recommendations are:

- a. on improving mobile phone coverage: Recommendation 1.4.1 (c), Recommendation 2.1.1, Recommendation 2.1.3
- b. on infrastructure improvements for regional areas: Recommendation 2.5.1, Recommendation 2.5.4, Recommendation 3.1.7

Endnotes

- 1 Australian Bureau of Statistics, *ABS Year Book 2007*, Transport section, ABS cat. no. 1301.0, Australian Government Printing Service, Canberra, 2008.
- 2 Australian Bureau of Statistics, *ABS Year Book 2007*, Transport section, ABS cat. no. 1301.0, Australian Government Printing Service, Canberra, 2008.
- 3 Smart State Council, *Sparse State — the death of distance*, Queensland Government, Brisbane 2007, p.17.
- 4 Australian Labour Party, *Regional Development for a Sustainable Future*, viewed 8 July 2008, www.alp.org.au
- 5 Australian Bureau of Statistics, *ABS Year Book 2007*, Transport section, ABS cat. no. 1301.0, Australian Government Printing Service, Canberra, 2008.
- 6 Council of Australian Governments, Communiqué 10 February 2006, viewed 8 July 2008, www.coag.gov.au
- 7 Australian Local Government Association transport fact sheet, viewed 4 July 2008, www.alga.asn.au
- 8 Horsham Colour, submission, p.2.
- 9 Nowra Toyota, submission, p.5.
- 10 Municipal Association of Victoria, submission, p.7.
- 11 Stephen Mitchell, submission, p.1.
- 12 Optus, submission, p.2.
- 13 Australian Bureau of Statistics, *Internet Activity*, Australia, Dec 2007 ABS cat. no. 8153.0, Australian Government Printing Service, Canberra, 2008 p.2.
- 14 NT Tourism, submission, pp.9–10.
- 15 P Smith and B Woodhead, 'Net closes on agents as travellers get away', *Australian Financial Review*, 3 June 2008, p.1, 39.

CHAPTER 1.9 — RESOURCES INDUSTRY

INTRODUCTION

This report defines the resources industry as businesses responsible for the mining of minerals and precious metals, and the extraction and production of natural gas and oil.

Overall, mining activity accounts for about 8 per cent of Australia's gross domestic product and has contributed more than \$500 billion directly to Australia's wealth during the past 20 years.¹

There are about 320 000 Australians employed in the industry, either directly or indirectly in support industries.² Many are located in sparsely populated areas in remote and regional Australia.

The resources sector is clearly important to Australia's future growth and prosperity. The sector contributes significant income and provides employment and future opportunities across the economy, underpinning economic growth and future development. Therefore, it is critical that these benefits are realised in the regions where the industries are located, rather than solely in major urban centres.

In this regard, the Committee considers access to appropriate telecommunications is essential for a performing resources sector and ensuring the benefits are realised in local regional communities.

SIGNIFICANCE OF TELECOMMUNICATIONS TO THE RESOURCES INDUSTRY

The Committee heard, during public consultations, of the importance of the collaboration of all levels of government, industry and consumer groups in overcoming the barriers to providing adequate telecommunications in regional areas. The Committee believes that such collaboration can be achieved with the resources industry.

The resources boom is changing the face of many regional areas, and providing an enormous economic stimulus that can have flow-on effects for regions' prosperity and service provision. However, it is critical that local communities are able to channel some of the benefits from this boom into sustainable outcomes for their region.

In many cases, the resources sector requires significant specialised staff and labour in very remote areas. To attract and retain this staff, many companies have to put in their own communications infrastructure to service their mines, staff and families in remote locations.

Finding 1.9.1:

To be able to attract and retain skilled staff in isolated areas, resources companies need to be able to provide the people in these communities access to telecommunications that facilitate choice and provide communication between them and family and friends back home.

However, in many cases this has not occurred as the resources sector and providers have not been able to reach agreement on an appropriate way forward.

Telstra have proposed that a fibre optic link be driven across Arnhem Land from Darwin to solve this problem, however they have not surveyed the route, they have not obtained land council approval to excavate the unsurveyed route, they are not prepared to fund it without significant contributions from Alcan and they have been promising this for at least the last 11 years. Even if funding were available today, it would be many years before such a link could be established through a region which is best described as inhospitable wilderness and unsuitable for construction activities.³

A relevant issue to a fibre optic link construction across Arnhem Land is that it would be constructed across several Indigenous tribal lands. The traditional land owners' permission will need to be obtained for the project to be completed.

In this case, the Committee is aware that this Arnhem Land project has been discussed in the media; however, the Committee has been unable to clarify the details with Telstra.⁴

The Committee was presented with many examples of collaborative and community-based approaches to supplying infrastructure in regional Australia and considers that there are similar opportunities for regional areas to collaborate with the resources sector to achieve positive outcomes for the region.

Importance of mobiles and broadband services to the resources sector

During the public meetings, the Committee visited five communities which directly support resource operations in their immediate area. Additionally, the Committee spoke directly to many major mining companies, including BHP Billiton and Rio Tinto.

The Committee heard of several examples where resources sector companies have installed their own mobile and broadband infrastructure to conduct their day-to-day business, and to attract and retain employees in remote locations across Australia. Although in many cases the resources companies supply the majority of the capital themselves, the companies have worked with telecommunications service providers to supply both the infrastructure and services.

The Committee heard the resources sector did not have concerns with covering the costs of putting in the infrastructure. Resources companies suggested that the existing infrastructure could be used more efficiently through extended government regulation. They argued that issues concerning access to existing telecommunications are preventing more efficient service provision in regional areas.⁵

However, resources companies do not agree with the widespread belief in some areas that there is an abundance of unlit fibre and spare capacity in many regional areas that is not provided for third-party access for commercial reasons. They consider the key issue is identifying what capacity there is in a region, and where the fibre is actually located, before determining the presence of any spare capacity and planning future infrastructure builds. This issue is further discussed in Chapter 2.5 — Backhaul.

Finding 1.9.2:

The location and capacity of backhaul infrastructure, including ‘dark fibre’ is not well known and is an impediment to effective planning of telecommunications infrastructure in many regional areas. In many cases, the resources industry has put in their own infrastructure to support their activities and to provide services to their workforce.

Through public meetings, the Committee was encouraged by several success stories of communities working collaboratively with a variety of organisations to come up with solutions to telecommunications problems. In some cases, communities have been able to work with providers and governments to develop viable solutions to the provision of adequate telecommunications to their communities. See Chapter 2.2 — Broadband.

The Committee has not been able to find sufficient data on how wide-spread such collaboration is across Australia, and has only anecdotal evidence to support the success of this approach in several cases. However, the Committee considers there is a case for pursuing such a collaborative approach where appropriate as the potential benefits for the local region far outweigh the time and effort required to engage at this level. The Committee considers governments may have a role in fostering a greater sense of collaboration by all parties in some cases.

Finding 1.9.3:

There is significant potential for local communities to leverage off improved access to services through infrastructure put in place by resource companies. This could ensure a more effective transition of the benefits of these activities to the region. However, collaboration needs to be promoted by all stakeholders.

Importance of payphones and fixed voice telephony services to the resources sector

The Committee notes the importance of payphones and fixed-line services in ensuring connectivity for resource company employees (and the families of these employees) that are located in more remote areas.

These services are particularly important in areas where mobile coverage may not be adequate for everyone’s needs. However, in many of the most remote areas payphones are not available (unless specifically provided by the resource company).

CONCLUSION

The Committee believes that many regional areas are seeing a substantial roll-out of high capacity telecommunications to support resource sector activities in the local area.

However, the Committee considers that many local communities have limited access to this capacity and there is strong potential for collaboration to leverage off these investments to benefit all concerned. Effective collaboration and planning of this nature will require a better understanding of the backhaul needs and availability in the local area, and may require some role for government in promoting this collaboration to ensure all parties are appropriately engaged.

SUMMARY OF FINDINGS

Finding 1.9.1:

To be able to attract and retain skilled staff in isolated areas, resources companies need to be able to provide the people in these communities access to telecommunications that facilitate choice and provide communication between them and family and friends back home.

Finding 1.9.2:

The location and capacity of backhaul infrastructure, including 'dark fibre' is not well known and is an impediment to effective planning of telecommunications infrastructure in many regional areas. In many cases, the resources industry has put in their own infrastructure to support their activities and to provide services to their workforce.

Finding 1.9.3:

There is significant potential for local communities to leverage off improved access to services through infrastructure put in place by resource companies. This could ensure a more effective transition of the benefits of these activities to the region. However, collaboration needs to be promoted by all stakeholders.

RECOMMENDATIONS

Recommendation 1.9.1:

The Australian Government work with state, territory and local governments to better coordinate the activities of resource companies and telecommunication service providers to facilitate shared planning and provision of telecommunications and services in regional areas.

Other relevant recommendations are:

- a. on improving software and applications for satellite broadband: Recommendation 2.2.2 (b), and
- b. on broadband infrastructure improvements for regional areas: Recommendation 3.1.7.

Endnotes

- 1 Australian Bureau of Statistics, *Sustaining the mineral resources industry — overcoming the tyranny of depth*, Canberra, 2007.
- 2 Australian Bureau of Statistics, *Sustaining the mineral resources industry — overcoming the tyranny of depth*, Canberra, 2007.
- 3 John Bloomfield/Ian Maclean, Nhulunbuy, Northern Territory, submission, p.1.
- 4 ABC News, *Broadband rollout for Arnhem Land*, viewed 25 August 2008, www.abc.net.au
- 5 Perth public meeting, 4 February 2008.

On route from Kununurra to Balgo, WA. 16 April 2008.





Post and telecommunications service provision is one of the listed Commonwealth powers in the Constitution. Since Federation, it has been generally accepted that the development of communications services covering every corner of Australia has been a national priority and goal. However, as recently as 1968 the Postmaster-General, Alan Hume, excluded remote areas when considering changes to reduce the cost of new connections for rural customers,

In considering any liberalisation of the current conditions, it is necessary to exclude the vast remote areas served by the radio communications systems of the Royal Flying Doctor service and other Outpost radio networks. The capital cost of serving these sparsely settled areas with conventional telephone facilities would run into more than \$50 million... Strong pressures will continue to be exerted by those excluded but it would exceed all reasonable bounds for the Post Office to bear the huge cost of provision and maintenance of normal telephone services in such areas, especially as there would be the prospect of only very small financial return from most of the services. No other country in the world with anything like comparable areas accepts such a responsibility.¹

However, telecommunications policy has continued to attempt to address the challenge of providing services to all parts of regional Australia. Over the last two decades, extensive reforms have been introduced to improve telecommunications services in Australia. These initiatives included successive phases of opening the market up to encourage competitive supply and privatising government enterprises. This progress has resulted in a complex regulatory structure, accompanied by a series of reviews and further legislative amendments.

Over the last two decades, there have also been significant changes in the technology used for telecommunications:

- Transmission technologies using optical fibre have reduced the cost of providing high capacity transmission.
- Mobile services have gone through two major cycles of evolution, first moving to digital standards (GSM to 2G) and then to standards supporting high speed data and video services (3G).
- The use of data services has moved from dedicated corporate data networks and a few dial-up bulletin boards to the world of the internet with households and businesses seeking high speed data connections.

These changes have all been accompanied by changes in fundamental characteristics of networks so that connection is no longer necessarily by the creation of a circuit between two end users but instead is serviced by the creation of various kinds of virtual connections. This in turn affects how quality of service can be managed, ultimately relying on greater transmission capacity to support services.

This report does not attempt to address these technology changes in detail. However, they add to the depth of issues that must be addressed by consumers, industry and policy makers in considering the adequacy of services in regional Australia.

Endnotes

- 1 National Archives of Australia: Postmaster-General; A5868, Folders of Cabinet Submissions, Second Gorton Ministry 1968–69; 360, Provision of Lines for Country Telephone Subscribers DECISION 679, 1968.. Note: \$50 million in 1968 is equivalent in value to around \$500 million today.

CHAPTER 2.1 — MOBILE COMMUNICATION

INTRODUCTION

The Australian mobile telecommunications industry has grown in both scope and significance since it started in 1981. There are now nearly twice as many mobile services than fixed phone services. As at June 2007, more than 21 million¹ mobile telephone services were in operation across the nation — more than the number of people in Australia.

Mobiles are used everyday by all sectors of society and business and are often considered to be essential services. The mobile technology now available allows people access to the internet, emails and other data services (such as television, news and the weather). However, the ability to access a simple voice mobile service remains a priority for regional Australians.

An important feature of mobile communications which appears to be frequently overlooked is that these devices are carried by people or vehicles as the mobile phone is a personal device or attached to car, truck, boat or plane. Mobile phones enable people to stay in touch as they travel and move around. Therefore, it is a serious mistake to view mobiles as an alternative to a fixed voice services attached to a particular residential or business address, or to use residential and business street addresses of customers as a measure of whether these customers have adequate mobile phone coverage.

Mobile telecommunications issues, ranging from problems with handsets, coverage issues, and the absence of roaming were raised frequently with the Committee. This high level of interest is indicative of the importance that Australians place on the ability to be 'in touch' no matter where they are, and of the wider role mobile telecommunications plays in the lives of regional Australians across the country.

MOBILE TECHNOLOGIES

All mobile telecommunications devices must be within range of a fixed tower or base station to function. Terrain such as hills and valleys can result in some areas not receiving coverage, despite close proximity to a tower. The base station or tower must also link back to the network. This is achieved through a 'backhaul link', either by radio/microwave or fibre. Therefore, coverage depends on the geographic proximity of the handset to the base station and adequate backhaul. For satellite-based systems,

the handset must have 'line of sight' to the satellite, and generally the satellite mobile phone handset will not work inside buildings.

A range of 'fixed' or non-mobile services can be supplied using the same infrastructure as mobile services. These services include applications such as telemetry, 'always-on internet', and home voice services. The provision of these services has a significant effect on investment in, and the commercial viability of, mobile infrastructure.

A variety of technologies provide mobile telecommunications in Australia, and they are now capable of managing higher bandwidth applications. This shift towards data as well as voice is part of a wider 'convergence' throughout the telecommunications industry.

There are a number of principal technology standards that comprise the terrestrial mobile telecommunications market in Australia. Two standards are currently in use for terrestrial mobile telecommunications in Australia: GSM and Universal Mobile Telecommunications System (UMTS).

GSM networks have been in operation since 1992, and are primarily used for the provision of voice and SMS services. All current operators, with the exception of Hutchison, operate a GSM network.

The second standard that has gained prominence in the marketplace since its launch in 2003 is the 'third generation (3G)' standard, or the UMTS standard. An evolution of this standard uses HSDPA (High Speed Downlink Packet Access) protocol and allows a theoretical data downlink speeds of up to 42Mbps with compatible handsets and wireless modems.²

The first 3G network in Australia was co-owned by Telstra and Hutchison. It operated under an infrastructure sharing agreement and provided 3G services over the 2100MHz spectrum band. Since then, Hutchison, Optus, Telstra and Vodafone have all made significant investments in the area of 3G mobile infrastructure. More recently, Telstra has provided a 3G service in the 850MHz spectrum, while Optus has started offering 3G in some of its 900MHz spectrum.

Mobile telecommunications are also delivered via satellite technology, which is particularly important in remote areas of the country. There are six satellite mobile service providers.³ Globalstar previously had a roaming agreement with Telstra on its CDMA network to provide dual-mode Qualcomm handsets and still has a roaming arrangement with Vodafone on its GSM network to provide dual-mode handsets.⁴

There are a number of other wireless technologies that are used in regional, rural and remote parts of Australia. These include high frequency radio (HF radio) which was previously used by the School of the Air and still remains in operation by the Royal Flying Doctor Service and some travellers in remote parts of Australia. CB radios are also commonly used in many areas for communications on properties, between vehicles, and by volunteer emergency services (some rural fire brigades). Generally, these communications are not connected to the telephone network, although it is possible for providers to do so.

Consumers concerned about being able to summon help in the event of emergencies can also purchase emergency radio beacons. The beacons provide for an emergency notification to be sent to the Australian Maritime Safety Authority (AMSA) in Canberra via a satellite. AMSA passes the information to appropriate regional police organisations to conduct search and rescue operations. While typically these beacons are carried on aircraft and boats, it is becoming increasingly common for land travellers to carry them. Authorities recommend that people travelling in very remote parts of Australia carry these devices.⁵

STATE OF THE MARKET

Mobile providers

The Australian mobile market was opened up to competition in 1992. Currently there are six mobile infrastructure providers in Australia. The Committee is aware that Optus has announced the use of its terrestrial mobile networks in conjunction with the Thuraya satellite system to provide a dual mode service across Australia.⁶ There are also additional providers selling services that use the infrastructure of Hutchison '3', Iridium, Optus, Telstra, and Vodafone.

The market shares of the terrestrial mobile providers are set out in Table 2.1.1. Only 40 000 customers use mobile services supported by satellite technology and these services are not included in the table.⁷

Table 2.1.1: Terrestrial Mobile network operator subscriber numbers in thousands and customer share (%) (2007)⁸

Year	Hutchison	Optus	Telstra	Vodafone
2007	1405 (6.6%)	6802 (32.2%)	9212 (43.6%)	3709 (17.6%)

Providers continue to invest in mobile infrastructure. Telstra has stated that it made an initial investment of \$1 billion⁹ in its 3G network. In 2007, Optus announced an extension of their 3G network worth up to \$800 million.¹⁰ Optus has also announced a further \$315 million investment in its 3G network due for completion in December 2009.¹¹ Vodafone has announced that it is upgrading all of its Vodafone 2G sites to HSDPA.¹²

Pivotel has announced that it is experiencing problems with its current Globalstar satellite system and that this adversely affects two-way voice and data services in some areas and at certain times. Pivotel has advised that the problem will be eliminated with the commissioning of its new second-generation Globalstar satellite constellation in the second half of 2009. In recognition of the problem, it is offering, for a limited time only, a 'trade-up offer' that allows a customer to trade in a working handset on the Globalstar system for a new Iridium handset kit.¹³

Thuraya, an emerging mobile service provider using satellite infrastructure, is proposing to offer a mobile service with a small 'dual-mode' handset. The handset is an advanced 'smart phone' with 3-in-1 integrated technologies (satellite, GSM tri-band and GPS). It will enable the handset to work with Thuraya's satellite and also with a GSM network. An Australian agent has indicated that the Thuraya satellite service is now operational for voice and that SMS and data services will be working in the near future. Dual mode service (that is, both GSM and satellite) is expected to come into operation in the third quarter of 2008 using the Optus terrestrial network.¹⁴ Optus advises that the new service will offer localised (04 and 0145) number ranges for all customers.¹⁵

Mobile coverage

Mobile service coverage is complete across all areas of Australia and adjoining seas when hand-held satellite mobile phones are included.

Like terrestrial mobile phone services, satellite mobile services also have their limitations. They will not work inside buildings or in hilly areas where there might not be a line of site to the relevant satellite. In the past, the handsets have been much larger than terrestrial mobile handsets. The limitations on use indoors, the larger size and the higher price of calls has generally resulted in consumers who require a mobile satellite service also purchasing a terrestrial mobile service for use when they are in range of that service. This has resulted in a view that current mobile satellite services provide a relatively poor mobile service. The Committee heard these concerns from users of satellite phones at its public meetings.¹⁶

The Committee notes that there are recent developments in mobile satellite technologies and service offerings. These include the entry of services using the Thuraya satellite system, and the proposal for dual-mode handsets that would eliminate the need for a

consumer to have both a mobile satellite handset and a separate terrestrial mobile phone handset.¹⁷ If the proposed offerings work as suggested by the proponents, the non-price quality concerns about satellite-based mobile services will be reduced. The Committee sees particular merit in the dual-mode features.

Terrestrial mobile coverage still only reaches approximately 1.9 million square kilometres¹⁸ — approximately 25 per cent of Australia's landmass. A significant proportion of this requires an external antenna or car kit. Telstra representatives stated in February 2008 that about half of the 2 million square kilometres coverage of its 3G service requires an external antenna.¹⁹ This means coverage without the use of an optional external antenna is about 13 per cent of Australia's landmass.

The Committee asked Telstra whether it could provide any more details on the extent of coverage of its terrestrial mobile networks on the basis of landmass for hand-held devices. Telstra's responded that:

[Telstra's] Next G network coverage maps now depict...over 2 million square kilometres using a correctly configured external antenna set-up. In fact, depending on a number of factors (for example line of sight, tower height, surrounding terrain and vegetation, antenna type and gain) usable coverage is often experienced beyond the depicted coverage and hence the Telstra area claim is conservative but meets accepted industry methodology so that customers can broadly compare different networks. In selected areas, coverage can be utilised up to 200 kilometres from a base station.

Handheld coverage is exposed to additional factors influencing performance — obstacles, device grip, impacts of mobility — and for these reasons, Telstra makes no specific claim to handheld landmass area or population coverage. Nor do other operators in Australia.²⁰

Optus advised the Committee that the 3G network it is building will provide coverage to one million square kilometres, or around 13 per cent of the landmass by December 2009. Optus' coverage claims are for use by a handset without the use of an external antenna.²¹ This is the same as the Committee's estimate of handheld coverage for Telstra's terrestrial mobile network.

The decision to expand coverage...means Optus is the only mobile carrier capable of challenging Telstra's network reach and brings competition and choice for rural and regional consumers... The expansion...will see at least 750 new base stations built and Optus network coverage increase by 400 000 square kilometres, to a total network coverage of more than one million square kilometres....

The Committee has inquired about the difference between mobile coverage statistics for hand-held versus antennae fitted mobiles.

Optus can advise that calculations for GSM coverage are calculated using 'on street' and 'car kit' (industry standards) coverage predictions and coverage for Optus' 3G network are predicted using 'on street' predictions only.

Optus statement [on coverage for its 3G network above is based on Australians being able to access] its 3G network by using their mobile/modem on street level. That is, without the use of antennae. Similarly, Optus' recent statement [on current coverage is based on consumers accessing] the Optus network using their mobile on street level.²²

The Committee notes that in the Federal Court case between the Australian Competition and Consumer Commission and Telstra, *ACCC v Telstra* [2007] FCA 1904, details of handheld and antenna landmass coverage were provided to the court by Telstra. In the course of those legal proceedings, Justice Gordon agreed to suppress the release of that information. This information was not available to the Committee.²³

The Committee concludes that current coverage for mobile handsets that are not connected to an external antenna is likely to be less than 15 per cent of Australia's landmass.

The concern in regional Australia is that too much of Australia's terrestrial mobile coverage requires either a car kit or external antenna to receive mobile reception. Arguably, as mobile phones are mostly used as personal communications devices, and are marketed as such, references to coverage should be made to coverage achieved with just a handset. The use of a phone is not constrained to when a person is in their vehicle, as Landcare noted:

Car kits are in the process of being fitted to each Landcare Coordinator's vehicle, which seems to enhance coverage to make it nearly universal. A drawback is that a Landcare Coordinator must leave the vehicle to conduct their business.²⁴

The fact that the extent of handheld terrestrial mobile phone coverage is not high in regional areas stands in stark contrast to the impression given by marketing campaigns which argue that coverage is:

- in excess of 98.8 per cent of the population²⁵
- 'everywhere you need it'²⁶
- 98 per cent of population²⁷

- *mobile broadband coverage to reach 95 per cent of the areas where Australians live and work*²⁸

In *ACCC v Telstra*²⁹ Justice Gordon did not accept that the suggestion that coverage was everywhere in Australia would be misleading because such a conclusion would be an extreme or fanciful interpretation. He did, however, find that failure to bring to consumers' attention that coverage depends in part upon where the person was, what handset that person was using, and in some cases whether that person had an external antenna attached was misleading and deceptive. In coming to this conclusion, Justice Gordon relied heavily on the evidence of Telstra employee Mr Goonan, who said, *coverage refers to the area* [emphasis added] *in which service is usable*.³⁰

As noted in Part 1, mobile services are extremely important for businesses operating in regional Australia. There are significant concerns about the extent of terrestrial hand-held mobile coverage:

*The [terrestrial] mobile phone coverage is totally unsatisfactory for our guests who come from many and various types of businesses. For them to use their mobile phones, something that most of them take for granted, we advise them to drive into the outskirts of Edenhope to get a signal. We offer to take messages on our land line to help encourage bookings. Understandably many of our booking enquiries choose not to book our establishment when they know they will not be contactable by mobile phone.*³¹

The Committee had wanted to include in this report maps showing the extent of current hand-held terrestrial mobile coverage in all states and territories. Unfortunately, these were unable to be provided by the Department of Broadband, Communications and the Digital Economy. The Committee also considered using the maps published by Telstra on its website which purport to depict predicted geographic coverage for hand-held devices. However, given Telstra's subsequent advice that, *Handheld coverage is exposed to additional factors influencing performance — obstacles, device grip, impacts of mobility — and for these reasons Telstra makes no specific claim to handheld landmass area or population coverage*, the Committee believes it may create a misleading impression to present Telstra's information.

Terrestrial mobile phone coverage expansion is driven by a number of factors. Coverage is a key competitive factor.³² This is clearly apparent with providers' marketing messages seeking to win custom by giving the impression that their mobile networks provide extensive coverage. While consumers generally understand that terrestrial mobile coverage is not in fact 'everywhere', the impression given is that coverage is far more extensive than it really is.

Coverage has also been heavily influenced by past government subsidies.

There remains an expectation that terrestrial mobile phone coverage will continue to expand, as one submission stated:

I realise that, for now anyway, it is not possible to provide reception right across Australia. However I would have thought that with the population size of the Cooma and Snowy Mountains region, we would have qualified for sufficient mobile phone transmitters to serve the district, particularly as I live so close to the town centre.³³

The cost of extending coverage of the network includes the cost of the tower, power, access roads, radio transmission equipment and 'backhaul' connection to the network. There are also other works that can have a substantial impact on the costs of building additional mobile telephone infrastructure, such as access to electrical power and road access to sites. In particular, the Committee notes that new roadwork presents opportunities to provide civil engineering works to reduce the cost of mobile network extension.

A commercial decision whether to make the investment necessary to extend coverage will require an assessment of whether the additional revenues received as a consequence of the investment will cover the costs. However, for additional terrestrial mobile phone base stations, the likelihood that revenues will be sufficient to cover costs is small. This is because for each additional base station installed there will be fewer additional people within that base station's footprint able to make calls who could not do so before. The cost of additional base stations is also high because of the need to provide adequate backhaul.

The Committee accepts it is currently unrealistic for the hand-held terrestrial mobile footprint to extend to 100 per cent of Australia's landmass. However, the Committee believes there is significant potential for the costs of extending or improving mobile coverage to be substantially reduced in the next few years. These cost reductions are likely as a consequence of the investments in backhaul needed to improve regional infrastructure to support high-speed internet services. The NBN and further actions for those not served by the NBN will drive these investments. This issue is discussed further in Chapter 3.1 — A New Framework. With such changes and reduced costs, the Committee believes there may be future scope for targeted funding to extend terrestrial mobile services in areas where there is potential for significant benefits.

The Committee believes that future priorities for the extension of terrestrial mobile coverage should be based on a consideration of the benefits (social and economic) against the net cost of provision. In determining potential locations the Committee believes the government should use the priorities and criteria set out in Table 3.1.1.

Finding 2.1.1:

Concerns about mobile coverage was the most frequently raised issue before the Committee.

Finding 2.1.2:

There is a serious mismatch between the impression given by industry of very extensive terrestrial mobile phone coverage and the reality of less than 15 per cent coverage of the landmass for hand-held devices.

Finding 2.1.3:

Consumers expect satellite mobile phones to deliver the same quality of services as terrestrial, and these expectations have not been met. These phones have experienced difficulties due to satellite failures, difficulty with terrain, line of sight and weather conditions.

Mobile service prices

The Australian Competition and Consumer Commission (ACCC) reports that, *...overall average prices for mobile services has fallen by about 42 per cent since 1997–98.*³⁴

This fall in prices has been achieved to some degree as a result of the strong competition in urban areas. Given the market driven outcome of geographic averaging of prices for mobile voice services, people in regional Australia have been able to benefit from this drop in price, to the extent that they are able to access the terrestrial network.

It is notable that the prices for terrestrial mobile voice services in regional Australia are the same as in urban Australia. This geographic ‘averaging’ of prices has been achieved in the absence of government intervention on pricing, and despite the providers facing higher operating and infrastructure costs and lower revenues for mobile services in regional, rural and remote areas.

As a whole, the people of regional Australia face higher prices for mobile services than urban Australia. This is because for a large part of regional Australia the only workable mobile service available is a mobile satellite service, and mobile satellite services are more expensive. A comparison of typical prices of mobile satellite and terrestrial voice mobile services are set out below. It is also argued that regional consumers pay more for mobile services due to the increased frequency of call drop-outs and missed calls that result in the user having to make additional calls or access messaging services.

Table 2.1.2: Example comparison of mobile satellite prices and terrestrial mobile prices August 2008

	Initial charge (incl handset)	Monthly charges	Per call 'flag fall'	Price (per 30 seconds)
Globalstar satellite mobile service ³⁵	\$1899	\$35 (including \$10 per month for calls)	60c	90c
Globalstar satellite mobile service with Government satphone subsidy ³⁶	\$899	\$35 (including \$10 per month for calls)	60c	90c
Thuraya ³⁷	From \$949 to \$1649	\$30 (voice only) \$45 (voice & data)	nil	60c
Thuraya with Government satellite phone subsidy ³⁸	Up to 60% of the price of the handset	\$30 (voice only) \$45 (voice & data)	nil	60c
Telstra NextG™ terrestrial mobile service ³⁹	\$409	\$10	27c	50c

Regional areas also face higher prices for mobile data. This is because mobile data services from the only provider offering this service in regional areas are more expensive than mobile data services available from other providers with networks that have a more limited geographic reach. The table below sets out some examples.

Table 2.1.3: Example Mobile data prices August 2008

	Minimum contract term	Minimum upfront mobile card equipment charge	1GB plan price plan per month	Tariff (excess download rate)
Hutchison '3' (mostly urban only) ⁴⁰	24 months	\$399 (or \$5 per month)	\$15	10c/MB
Optus ⁴¹	24 months	\$199	\$29.99	15c/MB
Telstra NextG (available in some regional and most urban areas) ⁴²	12 months	\$299	\$84.95	25c/MB
Vodafone ⁴³	24 months	\$249	\$29.95	10c/MB

Finding 2.1.4:

People in regional Australia face effectively higher prices for mobile phone services as a result of the limited terrestrial mobile phone coverage and the relatively higher prices of mobile satellite services.

Finding 2.1.5:

Mobile data service prices are effectively higher in regional Australia because in many areas the only provider offering services does so at a higher price than other providers in urban areas.

REGULATORY ARRANGEMENTS AND GOVERNMENT INVOLVEMENT

The current regulatory arrangements allow for open competition in mobile telecommunications. There are no restrictions on the number of providers.

As detailed in Appendix F, the regulations supporting competition provide for market participants to gain access to wholesale services using other providers' facilities when the ACCC 'declares' a service.

The ACCC has investigated whether to declare mobile services that would enable customers of one network operator to 'roam' on other networks when out of range of the first network operator. The ACCC was not satisfied that declaring the services would promote the long-term interests of users, concluding that declaring roaming might dampen mobile operators' incentives to expand their network. As a consequence, the regulations currently do not require roaming.

The Australian Government has provided substantial subsidies to industry to expand terrestrial mobile phone coverage in towns and along highways in regional Australia. It has also provided subsidies under the Satellite Phone Subsidy Scheme to help lower the price of mobile satellite phone handsets for people living and working in areas without terrestrial mobile phone services.

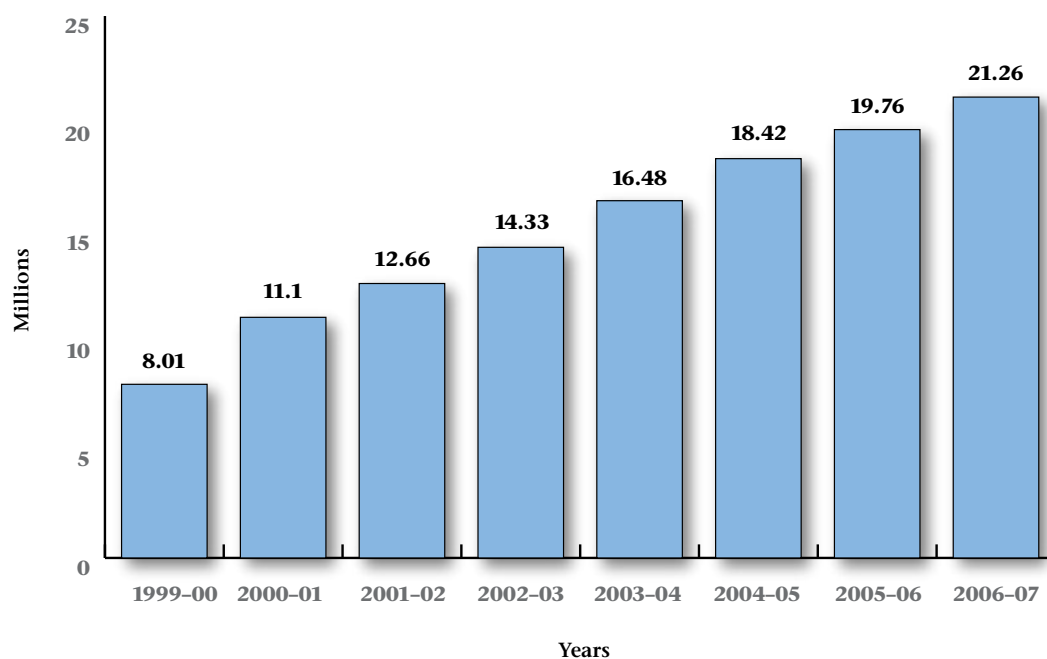
Around \$145 million has been spent since 2001 on terrestrial mobile phone infrastructure, resulting in new or improved coverage to 560 towns and districts, 62 lengths along 34 regional highways, and near-continuous coverage along 10 000 kilometres of 16 national highways.⁴⁴

Over 14 600 approvals have been issued under the Satellite Phone Subsidy Scheme since 2002, and expenditure under the Scheme has been around \$12.4 million. The current satellite phone subsidy scheme reduces the effective price of a handset to an 'eligible' consumer through a one-off up-front subsidy equal to 60 per cent of the price of the handset up to \$1000 (incl GST). Eligible consumers include individuals, small businesses and non-profit organisations. Details are set out in Appendix F.

SIGNIFICANCE OF MOBILE COMMUNICATIONS TO THE PEOPLE IN REGIONAL AUSTRALIA

Australians value mobile telecommunications as an essential service, necessary to facilitate every day life. The increasing take-up of terrestrial mobile phones and the expenditure by Australians on mobile phone services are strong indicators of the significance of these personal and mobile communications devices.

Figure 2.1.4: Mobile subscriber numbers (millions) 1999⁴⁵–2007⁴⁶



The growing importance and many applications of mobile telecommunications for regional Australians, including business, social and family applications, are all described in Part 1 of this report. This is evident in the subscriber numbers that appear above in Figure 2.1.4. Many submissions highlighted the importance of mobile communications in all facets of life, often extending beyond just voice telephony, for example:

- the Riverina Regional Library indicated the importance of a mobile service for its mobile library service,⁴⁷ and
- the Windorah Development Board indicated the importance of mobile services for visitors to the area, including the provision of wireless internet services.⁴⁸

Consumer expectations of mobile services

As noted previously, issues related to mobile services were among the most frequently raised throughout the review process. Telstra's network transition from CDMA to the Next G™ network has highlighted a number of issues regarding the information available to customers of mobile services that may have otherwise not been raised through submissions and public meetings. This is discussed further in Chapter 2.7 — Consumer Awareness. Issues such as the need for the telecommunications industry to better educate and inform its customers and potential customers of the services it provides and coverage footprints claims have all been highlighted. As one submission noted:

I would have liked Telstra to have implemented the system after it was proven to work. We have people working in remote areas...and it is very disturbing when we try and report in and there is no reception with a car kit, when with the CDMA system there was. I hope they learn to phase in any new system over a longer time span and not put people over a barrel to change their phones over at great expense.⁴⁹

As noted earlier, there is a substantial difference between terrestrial mobile coverage footprint in Australia based on landmass of less than 15 per cent, coverage with an external antenna of around 25 per cent, and coverage based on population of greater than 98 per cent.

This apparent disparity between coverage footprint based on landmass and coverage based on population, the requirement for an external antenna or car kit to receive reception, and the need for handsets fit for use in regional areas has been a recurring concern in both submissions to the Committee and during public meetings.

The Committee is concerned that coverage claims from mobile operators based on population coverage percentages confuse consumers and result in incorrect coverage expectations. In particular, the need for an external antenna or car kit to receive mobile reception in some areas is not adequately conveyed to customers when they purchase a mobile service. This confusion has been exacerbated by recent technology transitions.

Changeover from (relatively) reliable CDMA technology has raised a number of issues including: intermittent coverage in areas that previously had adequate coverage, phone coverage seems poorer when 15 to 20 kilometres from a tower, and without a car kit the phones seem to have more dead spots.⁵⁰

The Committee believes that part of the solution is ensuring that the information available to mobile phone users is clear and consistent across all providers. Taking steps to ensure that the information available is not confusing may, to some extent, alleviate

the pressure on providers, and the Australian Government, to continue the long-term provision and expansion of terrestrial mobile networks. Consumers will still want more coverage, and service providers will compete by extending coverage. However, accurate information on achievable coverage and the limitations of mobile technologies should reduce the situations where consumers purchase a service in the belief that coverage is more extensive than it is and then being disappointed in the outcome.

While the solution to future technology transition issues is dealt with in Chapter 2.7 — Consumer Awareness, the experiences relayed in submissions and consultations emphasise the importance of mobile telecommunications in regional Australia.

Summary of importance of mobiles to business and health care

Mobile communications are no longer optional for businesses, including businesses in regional Australia. In this respect, regional businesses are no different to businesses in urban Australia.

Mobile coverage is vital...for business to remain competitive in a global marketplace. Business owners need to be in contact with clients, suppliers, staff etc on a constant basis.⁵¹

In rural areas, health workers are often off-site and visit the premises of patients. Especially in the mental health field, employees require adequate mobile coverage to efficiently manage outreach workers and schedule visits, and to provide for their occupational health and safety. Some of these needs are currently met through satellite mobile phone technologies, although there is an expectation of terrestrial hand-held mobile phone coverage.

As is the case in Australia's capital cities, regional businesses have a strong reliance on mobile telecommunications. The primary industries sector relies on mobile telecommunications, not just for voice communications but also for a wide range of telemetry and data applications. These telemetry applications include monitoring dam and bore levels, watching video feeds from fields, paddocks or properties, and monitoring the movements of livestock.

The Committee considers that these types of applications are integral to ensure the long-term viability of regional Australian industry, and to improve the efficiency of business and industry. Improved provision of hand-held mobile telecommunications coverage in areas where these industries and businesses are located has the potential to realise significant benefits, both social and economic.

Mobiles phones and safety issues

A study commissioned by the Australian Mobile Telecommunications Association (AMTA) in 2007, and conducted by the Australian National University, showed that three quarters of mobile users sampled felt more secure when they were carrying a mobile device.⁵² This finding resonated at public meetings held across the nation, where security while travelling and safety on farming properties was cited as a major benefit of mobile coverage in regional Australia. Mobiles are seen by many as important for safety, providing the ability to summon aid.

Tourism is a fast growing industry in our region and the safety of travellers is paramount. Travelling in remote and unfamiliar areas on unsealed roads inevitably leads to problems and these travellers need to be able to communicate for assistance... If an accident occurs in a remote area, currently there is a long waiting time to get to a phone to make contact with the Flying Doctor. Having mobile coverage could well save lives.⁵³

The Committee notes that part of the solution may be to make travellers aware of other available technologies for use in gathering emergency services in case of a potentially life-threatening situation. Where people are particularly concerned about being able to summon help, consideration needs to be given to using communications services that are available, for example, mobile satellite phones, emergency beacons, or a CB radio. However, many people consider there is a safety role for terrestrial mobile services for people travelling along roads and highways in regional Australia.

...the poor mobile phone coverage in the Northern Territory...presents a significant public health and safety risk, which has been vividly demonstrated in a number of tragic events in the Northern Territory in recent years.⁵⁴

While appreciating the concerns expressed and the feeling of security a mobile phone might provide an individual, the Committee also thinks it important to stress that mobile use in moving vehicles is not safe driving practice and can contribute to accidents. This said, mobile coverage has the potential to shorten the time taken to summon assistance after an accident has occurred, and this may save lives and improve outcomes for people injured.

The Committee does not necessarily support a program directly targeted at highway coverage in preference to communities. However, it does consider that the number of people travelling on roads should be a consideration in extending terrestrial mobile coverage.

Finding 2.1.6:

Mobile services are vital for the economic and social wellbeing of people and businesses in regional communities.

ADEQUACY OF MOBILE COMMUNICATIONS IN REGIONAL AUSTRALIA

The significantly less terrestrial coverage in regional Australia means consumers need to use an external antenna to receive terrestrial mobile coverage, and/or use a mobile satellite service. This is not the case in urban areas. The result is that people in regional Australia do not have equitable access to mobile services.

While some of the gap in service availability is met by existing programs subsidising satellite phones, there is no certainty that these programs will continue.

The Committee considers there are serious shortcomings or gaps in mobile phone adequacy. This finding reflects the prominence of concerns about mobile services the Committee received in submissions and heard in consultations.

Finding 2.1.7:

Mobile services are currently available nation-wide through satellite and terrestrial services, but there is no assurance of their ongoing availability.

Finding 2.1.8:

People in regional Australia do not have equitable access to hand-held mobile telecommunications services.

The Committee notes the decision of the ACCC not to require roaming and that carriers are expanding the range of their networks. However, in remote areas where there is terrestrial mobile phone coverage, it is more likely that there is only one carrier. This not only means people in these areas are denied choice of supplier, it also means that customers of businesses in these areas are unable to make and receive calls unless they purchase a service from that one carrier.

Finding 2.1.9:

In areas where there is only one network supplier, the availability of roaming becomes more significant in providing choice of supply.

Finding 2.1.10:

Travellers to regional areas who have a service from a provider that does not have coverage in that area cannot use their mobile phone despite their expectation and despite the existence of coverage provided by another network operator.

DISCUSSION AND RECOMMENDATIONS

Assurance of ongoing access to mobile services

The importance of mobile services is now at a point where there is a need for greater assurance of ongoing equitable access to mobile services. The Committee proposes that mobile services are included in the suite of important communications services the Australian Government ensures is available to consumers under new arrangements detailed in Chapter 3.1 — A New Framework.

Mobile phone coverage

The Committee has no evidence that any particular statement of providers is factually incorrect or misleading other than the matter in *ACCC v Telstra*.⁵⁵ The information before the Committee indicates:

- a. there is widespread concern about the adequacy or extent of terrestrial mobile phone coverage
- b. a number of providers of terrestrial mobile services promote the extent of the coverage of their network on the basis of 'population coverage' with claims that coverage is greater than 95 per cent of population
- c. coverage relates to the area in which service is usable—whether a mobile phone is in coverage depends upon its geographic proximity to a base station, not population

- d. the extent of geographic coverage of terrestrial mobile networks is likely to be less than 15 per cent of Australia's landmass, for hand-held devices without option external antennae, and
- e. some providers promote the coverage of their networks on the basis that the mobile phone is connected to an optional external antennae.

In the Committee's view, use of population coverage in publicity material is fuelling consumer expectations that terrestrial mobile phone coverage is much more extensive than it actually is. This has resulted in serious disappointment with coverage performance, particularly in regional Australia. In our opinion basing references to coverage on populations, and/or on the use of an external antenna, leads consumers to believe that coverage, and hand-held terrestrial mobile phone coverage in particular, are more extensive than it actually is.

The Committee has received legal advice from the Department of Broadband, Communications and the Digital Economy, that the Committee is entitled to consider and make findings about the accuracy and completeness of information provided to consumers about mobile phone coverage, but that it should not conclude that a breach of the law may have occurred. The Committee makes no finding or suggestion of a breach of the law in respect of this matter.

The Committee notes that the *Trade Practices Act 1974* prohibits corporations in trade and commerce engaging in misleading conduct, and that the Australian Competition and Consumer Commission is responsible for enforcing this legislation.

The 'best solution' to the problem of the gap between consumers' expectations of coverage (that it is effectively everywhere) and actual hand-held terrestrial coverage, would be a massive extension of terrestrial coverage. Unfortunately, this is not practical because of the very high cost of doing this. Nevertheless, the Committee considers Australian Government action can assist in improving the problem in the following ways:

- a. Government measures to further reduce the price paid by consumers for mobile satellite services would reduce the inequity of access currently faced by regional Australia. This would reduce the need or reliance on terrestrial networks, bringing mobile services on an equitable basis to all Australians. In addition, Government support to lower the price of mobile satellite services should be structured in such a way to provide incentives for industry to offer dual mode handsets that support roaming on terrestrial mobile networks when these are in range.

- b. There is also potential for significant reductions in the cost of hand-held terrestrial network expansion in some areas because of decreased price and increased availability of backhaul services. Improvements in backhaul are likely to occur as a result of commercial investment and/or Australian Government interventions like the NBN or other measures to address the needs of those not served by the NBN. The fall in costs in extending mobile coverage may be sufficient to justify further subsidies targeted in accordance with the principles set out in Table 3.1.1. This is also discussed further in Chapter 3.1 — A New Framework.
- c. The greater need for external antennae in regional Australia needs to be recognised by providers and consumers in terms of expanding useful terrestrial mobile phone coverage. There may be some potential for the Government to provide assistance to consumers to purchase and use external antenna. This may be more cost effective and efficient in delivering increased coverage to regional Australians.
- d. Consumers' disappointment with mobile handheld coverage is largely created by misleading marketing messages implying more extensive hand-held coverage than there is in reality. By requiring the industry to more clearly and accurately inform consumers of their coverage so as to not mislead them, consumers are less likely to be outraged by coverage limitations. The mobile industry needs to recognise that their customers are seeking better quality information about service coverage. Further, there is significant reliance on terrestrial mobile phones by travellers. For many, the mobile phone is viewed as providing essential communications for safety despite low coverage of Australia's land mass, particularly for hand-held terrestrial phones. To address this:
- the Australian Government should explore, with the mobile industry, the opportunity to develop a consistent approach to mapping coverage and require that interactive maps be available online and in stores, and
 - the Government should work with local governments and other relevant authorities to better inform travellers about where terrestrial mobile coverage is not supported and other alternatives for emergency communications. This is also discussed in Chapter 2.7 — Consumer Awareness.

Concerns about the lack of terrestrial mobile coverage were the most frequently raised issue before the Committee. Mobile services provide very significant services for regional Australia and they are critically important for both business and personal uses. The Committee recognises the desirability of extending mobile phone coverage, and the Committee is extremely disappointed that it is unable to recommend an Australian Government funded-program to extend terrestrial mobile coverage at this point of time. Our recommendations are, however, aimed at setting in place an approach that will see substantial improvements in mobile services in the future through:

- a. including mobile services as part of the universal service arrangements under our proposed Communications Service Standard detailed in Chapter 3.1 — A New Framework. This will be a first and is in recognition of the critical importance of mobile services
- b. ensuring infrastructure upgrades are made in regional areas to support the extension of the terrestrial mobile network at much lower cost in the future. This process is details in Chapter 3.1 — A New Framework, and in particular Recommendation 3.1.7
- c. improving understanding of the limitations of terrestrial mobile phones, and
- d. extending and improving subsidies for mobile satellite services to make these more affordable.

The higher prices faced by regional Australia for mobile data services would appear to be a temporary issue more related to the development of these services. Optus and Vodafone are both investing to expand their respective 3G networks. This is likely, through competitive pressures, to encourage price reductions by the other provider. It also needs to be recognised that a provider with a more expansive network may justifiably expect to charge customers more for access to that network given the extra coverage that customers can use. Recent price falls, including from providers like Vodafone, indicate that the situation for mobile data is improving.⁵⁶

SUMMARY OF FINDINGS

<p>Finding 2.1.1: Concerns about mobile coverage was the most frequently raised issue before the Committee.</p>
<p>Finding 2.1.2: There is a serious mismatch between the impression given by industry of very extensive terrestrial mobile phone coverage and the reality of less than 15 per cent coverage of the landmass for hand-held devices.</p>
<p>Finding 2.1.3: Consumers expect satellite mobile phones to deliver the same quality of services as terrestrial, and these expectations have not been met. These phones have experienced difficulties due to satellite failures, difficulty with terrain, line of sight and weather conditions.</p>
<p>Finding 2.1.4: People in regional Australia face effectively higher prices for mobile phone services as a result of the limited terrestrial mobile phone coverage and the relatively higher prices of mobile satellite services.</p>
<p>Finding 2.1.5: Mobile data service prices are effectively higher in regional Australia because in many areas the only provider offering services does so at a higher price than other providers in urban areas.</p>
<p>Finding 2.1.6: Mobile services are vital for the economic and social wellbeing of people and businesses in regional communities.</p>
<p>Finding 2.1.7: Mobile services are currently available nation-wide through satellite and terrestrial services, but there is no assurance of their ongoing availability.</p>
<p>Finding 2.1.8: People in regional Australia do not have equitable access to hand-held mobile telecommunications services.</p>
<p>Finding 2.1.9: In areas where there is only one network supplier, the availability of roaming becomes more significant in providing choice of supply.</p>
<p>Finding 2.1.10: Travellers to regional areas who have a service from a provider that does not have coverage in that area cannot use their mobile phone despite their expectation and despite the existence of coverage provided by another network operator.</p>

RECOMMENDATIONS

Recommendation 2.1.1:

Australian Government programs to improve mobile services in regional parts of Australia should incorporate:

- a. if necessary, once the new framework is implemented, hand-held coverage in community service centres and towns and well-used roads and industries or regions specifically targeted according to the criteria in Table 3.1.1,
- b. a reduction to the effective price of mobile satellite phone services to that similar to terrestrial mobile phones (i.e. the current satellite phone subsidy scheme should continue and be expanded at least until the implementation of the new framework described in Chapter 3.1, and probably continue beyond that), and
- c. where necessary, actions to encourage the use of external antennae.

Recommendation 2.1.2:

The Australian Government request the ACCC to inquire into the merits of mandated terrestrial inter-carrier roaming in single carrier coverage areas in Australia to enable consumers to have a choice of provider.

Recommendation 2.1.3:

The Australian Government take the necessary action to improve consumer understanding of hand-held mobile coverage. At a minimum, this must include a requirement for the telecommunications provider to consistently, clearly and accurately inform consumers, at time of purchase, of hand-held land mass or geographic coverage.

Other relevant recommendations are:

- a. on improving use of mobiles: Recommendations 1.3.2, 1.4.1, and 1.7.1
- b. on infrastructure improvements for regional areas: Recommendation 3.1.7, and
- c. inclusion of mobile on 'universal service': Recommendation 3.1.1.

Endnotes

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- 2 GSMWorld, About HSPA, viewed 25 August 2008, www.gsmworld.com
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- 4 www.acma.gov.au/webwr/radcomm/frequency_planning/radiofrequency_planning_topics/docs/globalstar.pdf
- 5 For further details see Department of Infrastructure, Transport, Regional Development and Local Government website, www.infrastructure.gov.au/roads/safety/publications/2006/travelsafe_map.aspx and South Australian Department of Environment and Heritage, Remote area travel information, 2007.
- 6 Optus, submission dated 17 July 2008, p2.
- 7 Meeting with Pivotel in Sydney on 8 May 2008.
- 8 Access Economics, *Mobile Telecommunications Industry: Economic significance and contribution*, Australian Mobile Telecommunications Association, June 2008, p.7.
- 9 Telstra, *Telstra's Turbo-Charged, Nationwide Mobile Broadband Network Goes Live*, media release, Sydney, 6 October 2006.
- 10 Optus, *Optus Announces Bold Expansion of its 3G Mobile Network across National Footprint*, media release, Sydney, 30 January 2007.
- 11 Optus, submission dated 17 July 2008, p3.
- 12 Vodafone news release, *Vodafone selects Ericsson for national mobile broadband rollout*, March 6, 2008.
- 13 For further details, see www.pivotel.com.au/
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- 16 Daly River public meeting, 16 April 2008; Alice Springs public meeting, 18 April 2008.
- 17 See www.thuraya.com/content/thuraya-smartphone.html Optus, submission dated 17 July 2008.
- 18 Telstra, Mobile Broadband Coverage, viewed 13 July 2008, www.telstra.com.au
- 19 Main Committee Room — Parliament House Canberra, 11 February 2008.
- 20 Email from Telstra's director of Government Relations, Mr David Quilty, 15 August 2008.
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Exchange Hotel, Kalgoorlie, WA. 6 February 2008.

CHAPTER 2.2 — BROADBAND

INTRODUCTION

From a start in the mid-1990s, access to broadband and the facilities it provides has rapidly become an essential service in households across Australia. The Organisation for Economic Co-operation and Development (OECD) recently commented that broadband:

...provides a platform for innovation, for new communication technologies, the provision of new products and services and access to an unparalleled wealth of information.¹

Broadband is mainly used for internet access but it can also be used for other communications needs, including voice services, television and radio, as well as facilitating an increasing range of activities such as shopping, banking and social interaction.

The internet was originally introduced to Australia as a research and academic network in the mid 1970s.² The first commercial internet connection hit the Australian market in late 1989 using standard telephone line wiring. These 'dial-up' narrow bandwidth connections reached maximum speeds dependent on the available modem speeds, with early users accessing at speeds as low as 300 and 1200kbps. Later modem speeds reached a notional peak of 56kbps, though the quality of line connection resulted in lower speeds. Early public uses were basic communications services such as electronic mail (email) and online bulletin boards (today's blogs).

Apart from low access speeds, another weakness of dial-up connections is that the telephone line cannot be used for a voice call and accessing the internet at the same time. Also some users needed to make a timed long-distance call to access their service provider. Therefore, many users acquired a second line just for their internet use.

The internet grew considerably over the next decade, driven by both the increasing popularity of email and the development of the 'world wide web' and the browser. By November 2000, there were approximately 696 internet service providers (ISPs) Australia-wide and more than 50 per cent of Australian adults were regularly using the internet³.

With the increased application and use, internet users sought access at higher speeds. In business applications data connections using Integrated Digital Services Network (ISDN) provided connections at 64kbps, 128kbps and even higher speeds for large firms. Residential users first gained higher speed access in urban areas through 'cable modems'

provided on the HFC pay-TV networks of both Telstra and Optus. The introduction of the first broadband connections through an Asymmetric Digital Subscriber Line (ADSL) connection in 2000 improved the speed of downloads providing high speed access and opening up new capabilities for users throughout Australia.

A key feature of this new technology was that it used the telephone line, and the line could still be used for a phone call at the same time. In addition, the connection to the internet was always available, a state known as 'always-on internet'.

What is 'broadband'?

The term 'broadband' is derived from 'broad bandwidth' and reflects the greater data carrying capability compared to the narrow bandwidth style internet connection that dial-up provides. The ABS defines broadband as an 'always-on' internet connection with an access speed equal to or greater than 256kbps⁴, which is consistent with the definition used by the OECD.⁵ As the available speeds for broadband increase, it is a matter for some debate whether the minimum speed in the definition should be increased to meet the growing needs of users. An alternative term of 'true broadband' was originally ascribed to services at 2Mbps or better, with the term now reserved for speeds of 10Mbps or better.

In its consultations, the Committee noted a tendency for consumers to equate broadband to services delivered exclusively by ADSL. However, broadband is delivered throughout Australia via a mix of technologies and a consumer's geographical location will determine which technologies are available to them.

The Australian Government's proposed NBN will increase the available broadband services to many people in regional Australia. The NBN request for proposal asks proponents to indicate the extent to which proposals are able to prioritise areas that currently do not have access to minimum speeds of 12Mbps. The Committee notes this provision and supports the objective that priority should be given to those who do not currently have access to these minimum speeds.

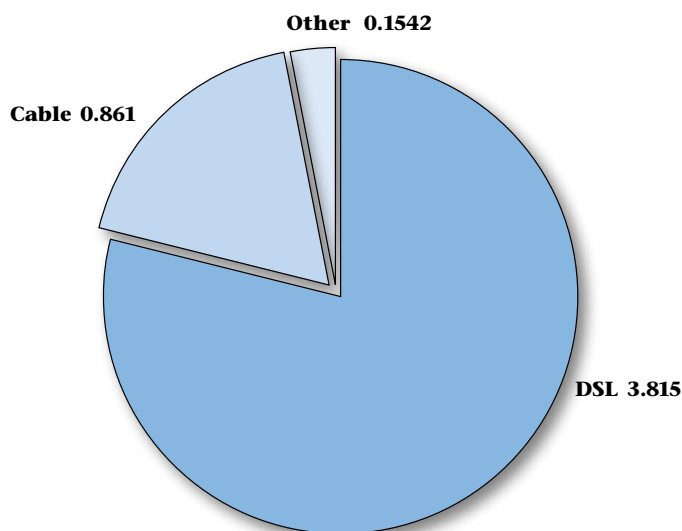
One way for this to be achieved is for the NBN roll-out build to be 'from the outside in'. The Committee believes very strongly that such an approach should be pursued. This is discussed later in this chapter.

TECHNOLOGIES

There are a number of different technologies used to deploy broadband services throughout Australia. The type of connection will depend on each individual's circumstances, including the availability of infrastructure. This varies depending on geographical location, and the applications they will be using.

While this discussion focuses on broadband, there are still consumers who choose to access the internet via dial-up connections, as this service remains relatively inexpensive. In addition, there have been a number of consumers accessing the internet through ISDN connections, some of which were made available through previous government interventions.

Figure 2.2.1: Broadband services by type of technology, December 2007



Current broadband technologies being deployed in Australia, OECD data ⁶

Digital subscriber line

Digital subscriber line (DSL) broadband uses the current standard copper telephone network to provide broadband access by modulating the carrier in the area above voice frequencies. There are a range of DSL standards that have different characteristics. ADSL, and more recently ADSL2+, is most commonly used for residential and small business customers. DSL requires a multiplexer at the network end of the copper line and an appropriate modem in the customer's premises.

The availability of ADSL services relies on the presence of, and the customer's proximity to, the multiplexer (DSLAM), which is typically located in the telephone exchange.

The speed of an ADSL service reduces dramatically the further away the premises are located from the multiplexer (exchange), therefore the further away the customer is located from the exchange, the lower the speed of connection that's available to that customer. Additionally, the service level achieved will be determined by other characteristics of the copper circuit such as the gauge of the wire, the traffic at the exchange and the quality of equipment.

Fibre optic

Optical fibre technology currently provides the best broadband connection, as it has greater capacity than other types of broadband connections. Fibre optic cable can be run all the way to the customer's premises (known as 'fibre-to-the-home' or FTTH) or the fibre can be run to an intermediate location (known as 'fibre-to-the-node' or FTTN).

In an FTTN configuration, the link from the node to the customer's premises is typically a twisted pair of copper wires a coaxial cable, or a wireless link. The coaxial cable is referred to as HFC (hybrid fibre coax) and is the technology used for Pay TV and the first residential broadband services in Australia.

Wireless

Wireless technology provides broadband via a radio frequency signal between a transmitter and the customer's receiver. Technically both the base station and customer's device are transponders, though it is also common to refer to the base station as the transmitter and the customer device as a receiver.

Transmitters are placed at specified locations with connectivity available to a radius around that site. Wireless broadband can be affected by such factors as terrain and the radiofrequency used for transmission (as different frequencies experience different interference). Line of sight radio signals are limited in reach and to help improve the distance covered by transmitters are usually placed on towers, buildings or hilltops.

There are a number of standards available for wireless transmission, including WiMax. Broadband over wireless technology can be provided on 3G mobile phone networks to enabled devices including mobile phone handsets and computers (this is discussed in Chapter 2.1 — Mobile Communication).

Satellite

Satellite services are available across all of Australia, and accordingly can be used to provide service to areas that are unable to receive a terrestrial solution such as ADSL. Satellite services are deployed via a radio frequency signal between a satellite receiver at the customer's premises and the provider's satellite. Satellite services for broadband typically use geosynchronous satellites which mean that their orbital period is the same speed as the Earth's rotation and hence the satellite remains in the same position in the sky throughout its life. To achieve this orbit, the satellite has to be at an altitude of approximately 36 000 kilometres above the earth.

This distance means there is a noticeable time delay as the signal travels up to the satellite and back (at the speed of light). This delay is called latency. Some software expects responses from the other machine within a specified time limit. High latency can result in some software performing poorly or not working. The user may receive a message indicating that the connection 'timed out'.

These problems with latency on satellite-based broadband services are not experienced with the use of software and applications suitable for satellite technologies used to provide the link. This experience sometimes results in criticism of the satellite technology rather than the appropriate use and development of software. For users, the problems experienced may mean they do not receive a broadband service of a standard that they had expected.

In addition, the frequency, power levels and size of dish used for some satellite services means the signal can be scattered by raindrops, and hence climatic conditions can affect services.

The susceptibility of satellite services to these issues will depend upon the equipment used and the particular satellite system. Newer satellite services are less affected, and proposed satellite services should dramatically improve capabilities. However, the extent and frequency of concerns of users of satellite based-services indicates that more needs to be done to encourage the development and use of applications and software that work well with satellite technologies. Otherwise those who can only access broadband via satellite based services may have, in effect, a less than adequate service.

REGULATORY ARRANGEMENTS AND GOVERNMENT INVOLVEMENT

Regulatory arrangements

An overview of current telecommunications regulation and its genesis are described in some detail in Appendix F. As a retail service, broadband is subject to very little specific regulation. There is currently no mandated quality or reliability of service standard and no price controls. The Australian Broadband Guarantee (ABG) does, however, provide for service quality standards and prices for services provided under that program.

Where broadband services are delivered using DSL technology and the copper line is also used for voice services, the Customer Service Guarantee (CSG) standards would apply to restoration of the voice component. Therefore, the CSG may be relevant in restoring broadband if the loss of service was due to a break in the copper line, but not if it was due to a failure of the DSLAM or modem.

For providers other than Telstra to offer DSL services, they must either buy a wholesale DSL service from Telstra or acquire access to the copper access line from Telstra's exchange to the customer's premises. This can be obtained by acquiring either the Unconditioned Local Loop (ULL) service or the Line Share Service from Telstra. In the latter case, the line is still used to provide a traditional voice service. Access to these services currently occurs as a consequence of the declaration of these services by the ACCC under Part XIC of the *Trade Practices Act 1974*.

Government involvement

Over the last decade there have been a number of reviews and programs designed to meet the growing needs for internet and data services in regional Australia. These are discussed more completely in Appendix F.

During the period of the Committee's consultations, the outcome of the Broadband Connect Infrastructure Program (BCIP) had been discussed. This program had been awarded to a consortium, OPEL.⁷ In April 2008, the Australian Government announced that the OPEL funding would not proceed, as the proposed network would not meet the coverage requirements.⁸

As already noted, the Australian Government has invited proposals to build a NBN.

The Government has also allocated further funding of up to \$270.7million to continue the ABG until 2012.⁹ The ABG is a targeted funding program that provides registered ISPs with a per-customer incentive to connect customers to broadband services in regional Australia. The intent of the program is for customers to receive a subsidised broadband

connection on specified terms and conditions, enabling access to services comparable in price, speed and functionality to urban services. The ABG was first introduced as the Higher Bandwidth Incentive Scheme (HiBIS) in April 2004 and changed into the Broadband Connect Incentive Program in January 2005. In April 2007, the Broadband Connect Incentive Program ended and the ABG began.

The Committee met with each state and territory government as well as many local government representatives across Australia. Throughout the meetings, the Committee heard of initiatives these governments were putting in place to ensure their constituents have access to broadband services. Some examples of these include the South Australian Government's Broadband Development Fund, the Western Australian Government's StateWide Broadband Network and the NSW Government's Connected Classrooms project.

The Committee also heard that collaboration of all levels of government would significantly increase the efficiency and effectiveness of all government programs. Involving local governments with specific regional knowledge is more likely to produce project outcomes that meet the needs of regional Australians. This issue is discussed in further detail in Chapter 1.6 — Local Government.

STATE OF THE MARKET

Broadband consumers

The number of consumers of broadband is continually increasing. Businesses, households, educational and health facilities and non-profit organisations are all consumers of broadband services. Their adaptation to the internet and the services it provides is ever increasing, with take up of all internet services 30 per cent higher in 2006 than in 2001.

At the end of December 2007, there were approximately 7.1 million subscribers to the internet Australia-wide, of which 5.2 million were accessing the internet using some form of broadband connection.¹⁰

Table 2.2.2 shows the take-up of internet and broadband services from the 2001 Census to the 2006 Census, in each different area of Australia. Internet connections included in the survey range from dial-up using a telephone services, access via an ISDN service, and access via a broadband service. The number of households in regional areas with a broadband connection is increasing and connections have risen in the last seven years. The data shows there has been a rise in connections in regional Australia of on average 10 per cent between 2005 and 2006 alone, while urban Australia had increases of 13 per cent for the same period.¹¹

Table 2.2.2: Broadband take-up in Australia

	Internet % of dwellings		Broadband % of dwellings		
	Census 2001	MPHS* 2005–06	Census 2006	MPHS* 2005–06	Census 2006
Major cities of Australia	39	62	66	33	46
Inner regional Australia	29	56	59	21	32
Outer regional Australia	26	52	55	16	27
Remote Australia	25	53	54	19	28
Very remote Australia	17	—	42	—	24
Total	35	60	63	28	40

ABS: 8146 – Patterns of internet access in Australia, 2006

* Multi Purpose Household Survey

Figure 2.2.3 below shows that there is less take-up of internet with increasing remoteness. Less than a third of households in rural and remote Australia are connected to broadband, while nearly half of households in major cities are connected.¹²

Figure 2.2.3: Dwellings with internet and broadband access, 2006

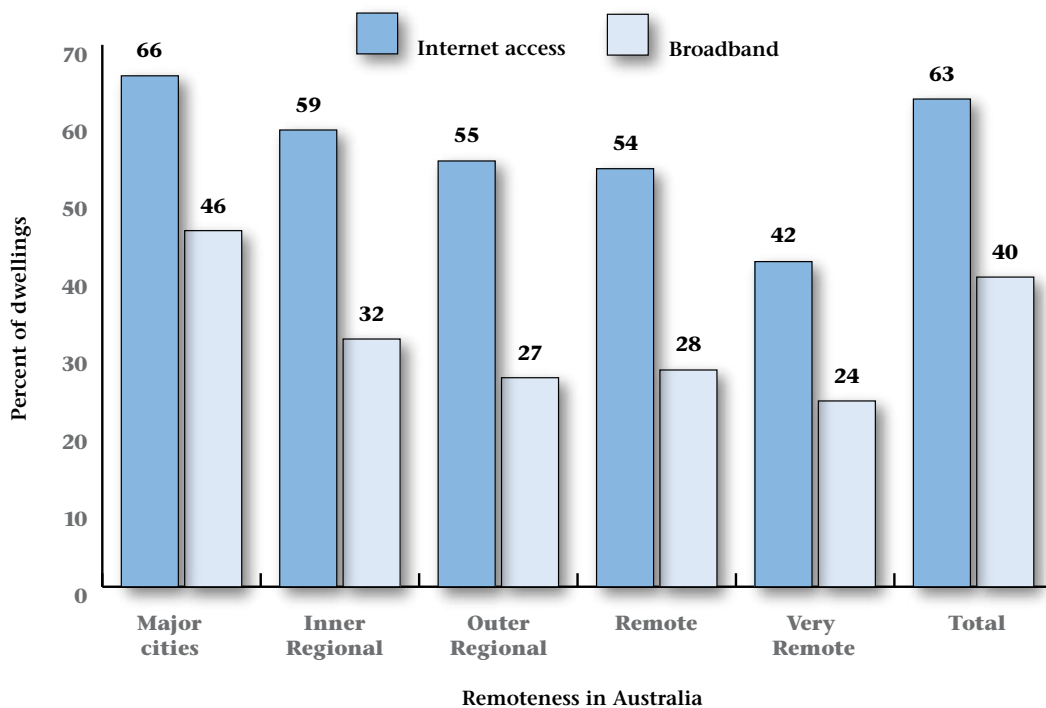


Figure 2.2.3 also shows the continued heavy reliance of regional Australia on dial-up access to the internet. Nearly half of all connections to the internet are made via dial-up.¹³ The availability of dial-up access provides an important point in the market as a low priced option for consumers.

The Committee believes that the reliance of regional Australia on dial-up internet access is significant in that it makes available a basic low priced internet access service. This needs to be protected in any transition to other technologies. For example, management of the NBN rollout should ensure consumers continue to have access to low priced dial-up access or some similar alternatives and believe they should not be forced onto higher priced broadband services.

Finding 2.2.1:

A significant number of consumers continue to access the internet through dial-up and ISDN. Consumers are concerned that they should not be forced to acquire more expensive broadband services as their only choice.

Broadband service providers

ACMA claims:

...there are approximately 659 internet service providers in Australia. Of these, 552 provide ADSL services, 204 provide wireless services, four provide cable services and 41 provide satellite services.¹⁴

The number and change in ISPs makes the market very difficult to characterise. In March 2007, 23 of these ISPs were described as large (10 000 to 100 000 subscribers) and nine were described as very large (over 100 000 subscribers).¹⁵ At 30 June 2007 Telstra had 2.4 million retail broadband subscribers and 654 000 retail narrowband subscribers. In addition 1.8 million broadband services were provided to Telstra wholesale customers and there were 239 000 Unconditioned Local Loops provided to Telstra wholesale customers.¹⁶

Access to the internet is also available to the public through a variety of ways, for example, public libraries, internet cafes or kiosks, WiFi hot spots, and community operated internet access centres. These facilities provide an important service in enabling many travellers and those not able to access the internet through work or at home to do so. This is discussed in further detail in Chapter 1.1 — Social Inclusion.

At 31 December 2007, Optus consumer business had 893 000 broadband customers of whom 243 000 were supplied through a wholesale service, 219 000 through an on-net DSL service and 405 000 through HFC. They had 205 000 dial-up customers.¹⁷

The ISDN is a switched circuit digital data service with a download speed of 128kbps or 64kbps. As of 21 December 2007, Telstra have withdrawn their home-based ISDN services from sale and have notified their current home-based ISDN customers they will no longer supply their ISDN services from 30 December 2008. Telstra suggests that their existing home-based ISDN customers purchase a broadband service.¹⁸ As far as the Committee is aware, Telstra will still make ISDN business products available. The Committee would suggest that consumers affected by this change should use the opportunity to take advantage of the choice of services and providers offered under the Australia Broadband Guarantee program.

Broadband prices

The ACCC reports that:

According to Spectrum Strategy Consultants/Internet Industry Association's Spectrum/IIA broadband index (Q3 2007), as at 1 October 2007, Australians paid a minimum of around \$38.95 per month to access 256 Kbps and a minimum of around \$85.70 per month to access 17+Mbps plans. By comparison, the minimum monthly amount spent on bundled packages ranged between \$33.90 and \$75.66.¹⁹

In 2007, the average revenue per user across Australia was \$34 per month for a broadband service.²⁰ Many users in regional Australia are facing significantly higher prices than this. Typical charges faced by many people in regional Australia range between \$82 per month (with a one-off equipment and installation fee of \$99) for an Australian Government subsidised service, to \$220 per month for a standard service including equipment and installation charges.²¹ As one submission noted:

The services we do have in the bush are only gained at a significant price penalty to our city cousins.²²

The Committee felt that there was an expectation among some regional Australians that the price of broadband services available to them should be on par to what was available in major cities. This expectation was supported at public meetings and through written submissions.²³ For example, a representative of a mining company stated that current broadband prices in remote towns of Western Australia were five to seven times higher to those available in Sydney. They believed large differences in prices were unacceptable irrespective of the cost of providing the services and that these higher prices would force companies to cut corners in other areas.²⁴ The Committee is not in a position to verify whether such large price differentials exist for large business.

SIGNIFICANCE OF BROADBAND SERVICES

The Australian Labor Party (ALP) election platform for the 2007 election said:

Broadband is a critical enabling technology that is currently driving substantial productivity gains around the world. Broadband infrastructure represents the new growth platform for productivity and business development for Australia's economic future. Broadband will not only make Australian businesses more efficient at what they already do, but will also open up completely new ways of doing things.²⁵

The ALP policy went on to cite the 2006–07 Australian Local Government Association (ALGA) *State of the Regions Report* that shows that those regions that have broadband access are doing well and are more productive than those that do not have access. Indeed, the ALGA 2006–07 Report highlighted high speed broadband as a key economic driver in regional communities and estimated that the failure to address inferior internet access quality could cost regions up to \$2.7 billion in foregone gross products and up to 30 000 jobs in 2006.²⁶

The Committee heard the same views in its consultations — access to reliable, high speed broadband is essential for the development of regional areas.

Businesses noted that access to broadband is vital to their business to ensure they keep up with advances in their fields. However, the higher prices they pay for their broadband services in regional Australia had to be passed on to their customers and this placed them at a competitive disadvantage to larger urban-based businesses. The Committee also heard that the higher relative price of broadband in regional Australia can be a disincentive for new businesses to remain or locate in these regions.

Part 1 of this report considers a number of important industries and service sectors in regional Australia, and considers the significance of telecommunications services. In each area the importance of the availability of broadband was apparent in the Committee's consultations.

Some examples from Part 1 include:

- The provision of health services in regional Australia through remote diagnosis, consultations and access to specialist advice, online availability of health records, and improved attraction and retention of health care professionals in regional areas.

- Enhanced education and e-learning capacity through distance education, remote access to online resources such as libraries and information websites, and improved future education and employment prospects, both within the region and more broadly.
- Increased flexibility and competitiveness of regionally-located businesses to expand their markets and reach, and improved access to relevant information and capacity, including greater access to skills and training.
- The rise of social networking (sometimes called Web 2.0) is facilitating participation and interaction. Online support groups and forums provide a new way of socialising and people in regional Australia can participate and receive advice and support no matter where they are located.

In the Committee's view, these examples illustrate the significant need for high-speed broadband services in regional Australia. These services deliver substantial economic and social benefits, and allow regional areas to readily connect with the national and global economy on an equal basis.

Broadband significantly changes the way regional, rural and remote Australians live. These enhancements are more important to people in regional areas than to those in urban areas (given their geographical location and proximity to these essential services).

Furthermore, the Committee notes the significance that OECD nations place on internet services. At Seoul in June 2008,²⁷ information and communications technology (ICT) Ministers of OECD nations declared a shared vision that the internet and related ICTs supports the full range of economic, social and cultural activities, and will strengthen nations' capacity to improve the quality of life for all citizens by:

- Providing new opportunities for employment, productivity, education, health, and public services as well as addressing environmental and demographic concerns.
- Acting as a key driver for the creation of enterprises and communities and stimulating closer global co-operation.
- Enabling new forms of civic engagement and participation that promote diversity of opinions and enhance transparency, accountability, privacy and trust.
- Empowering consumers and users in online transactions and exchanges.
- Reinforcing a culture of security which applies to information systems and network, and their users.

- Developing an increasingly important platform for research, international science co-operation, creativity and innovation in many different sectors.
- Creating opportunities for new economic and social activities, applications and services through ubiquitous and seamless access to communications and information networks.
- Promoting a global information society based on fast, secure and ubiquitous networks which connect billion of people, machines and objects.

The Ministers went on to declare that they will facilitate the convergence of digital networks, devices, applications and services, through policies that ensure that broadband networks and services are developed to attain the greatest practical national coverage and use.

Finding 2.2.2:

Broadband services are vital to the economic and social well-being of people, businesses and communities in regional Australia.

ADEQUACY OF BROADBAND SERVICES

Equitable access

The Committee in its consultations throughout regional Australia heard that there is not equitable access to broadband. As one submission stated:

Speeds and download limits seem to be increasing in non-rural areas and we are being left behind on the old bush track.²⁸

The Committee notes the commitment of the Australian Government to assisting people in regional Australia access broadband through the ABG. This program and its predecessors have resulted in almost 300 000 people in regional Australia being able to purchase a broadband service. However, at the time of consultations, the ABG parameters did not match urban services in speeds, prices or download limits. Additionally, customers who access broadband through some satellite service providers noted the disadvantage of high latency and disruption during wet seasons.

The Committee is also aware that many people continue to choose to access the internet through lower priced alternatives such as dial-up and ISDN. The planned withdrawal of the some ISDN services will impact upon these consumers.

Finding 2.2.3:

People in regional Australia do not have access to broadband services on equitable terms to those applying in urban areas with regard to price, speed and download limits.

The Committee did not have access to sufficient information to assess whether access to the internet through public access points (libraries, internet cafes etc.) were adequate in meeting the needs for people in regional parts of Australia. However, the Committee considers these provide important services and that more should be done to assess whether there are impediments in their availability. For example, the Northern Territory Library representative present at the meeting in Darwin noted that there were significant impediments including lack of equipment, lack of bandwidth and also not enough trained staff to help people.²⁹

Further, the Committee considers there is potential to improve public internet access in regional areas by making internet access available to the public from government funded institutions such as schools after hours. This was a recurring suggestion at consultations undertaken by the Committee.³⁰ The Committee is aware of issues such as security, insurance and availability of adequate supervision that would need to be overcome, but believes this should be considered in more depth by the relevant governments.

Finding 2.2.4:

Public access to the internet through libraries, internet cafes and internet access centres continue to be important for regional communities. There is a need for information on the availability of public internet access.

Competition

The Committee notes the positive benefits derived by competition, including lower prices, more efficient service provision and innovative services and products. As noted in Chapter 2.6 — Competition, regional areas have benefited from the consequences of competition in urban areas. However, the benefits of competition are not only evidenced in overall market impacts, but also in creating for consumers the opportunity for choice, both between providers and between service offerings.

It is extremely frustrating as a consumer to experience poor customer service and not have the opportunity to take one's business elsewhere. The corollary to this is that customer service should improve if customers are able to exercise choice in provider.

The Committee considers any measures to provide improved broadband services to regional areas should, as far as possible, seek to ensure competitive service provision so that consumers have a choice of provider. The ABG is one model that effectively seeks to provide services as far as possible into remote areas, while simultaneously endeavouring to promote a competitive environment for service provision by supporting multiple providers on a technologically-neutral basis.

However, there are still areas of regional Australia where choice is severely limited. Certainly the degree of choice available to regional Australians is not the same as that available in urban areas.

The Committee also acknowledges the difficulty of providing competition in some areas and the likelihood that some of the most remote areas are unlikely to see competitive facilities in the short to medium term. Some submissions to the Committee emphasised the importance of extending services as far as possible into more remote areas, rather than applying resources to promoting competition in facilities:

...one brilliant service is better than two or more inferior services.³¹

Finding 2.2.5:

The degree of choice in broadband services and providers available to regional areas is less than in urban areas and this lack of choice is most apparent in rural and remote areas.

Impediments

The Committee heard throughout the consultations that customers were confused by the many 'technical' terms used by ISPs in the sale of their plans, and customers often did not understand what the terms of their plans actually included. Customers felt disadvantaged and pushed into contracts by broadband providers.

Customers could not easily compare different service providers' plans. This situation is often not different in urban areas, and the Committee expects that many users would agree with the submission that stated:

...complicated pricing plans make it difficult to calculate actual costs.³²

It was noted that plans in urban areas were ‘shaped’ so that any amount over the stated monthly data allowances was at a significantly lower speed and no excess was charged. In regional areas, some customers were unaware of how many Megabytes they were downloading in a typical session and were frustrated with the excess usage costs they were charged.

We are heavily penalised for exceeding our internet usage plan, even though we have always paid for the maximum plan service.³³

The Committee notes that the new ABG guidelines for 2008–09 provide for the ‘shaping’ of services rather than charging for excess downloads. The guidelines have also sought to deal with the issue of complicated or technical contracts by introducing a standardised contract for use between customers and ABG approved providers.

Chapter 2.7 — Consumer Awareness, contains some further comments on issues of consumer awareness and their ability to exercise choice.

Finding 2.2.6:

Technical jargon is inhibiting consumer understanding of complicated and confusing broadband plans. Consumers are not able to easily compare plans between service providers and have difficulty understanding the technical terms used in the plans.

The Committee also heard concerns about broadband services provided over satellite infrastructure throughout its consultations, including the meetings held in Darwin and Parkes. These concerns mostly stem from issues arising because of latency, low upload speeds, or lack of choice of providers.

In some instances it appeared the concerns about satellite services reflected users’ experience of particular software they were using, which did not sufficiently meet their needs when used with satellite broadband, rather than a failing with the broadband service itself. In other instances the concerns did reflect problems associated with satellite technology, particularly latency. However, even in this regard, it seemed the problem could have been resolved with the use of appropriate software compatible with satellite broadband.

The Committee considers that the Australian Government should encourage the industry to develop and make available software and applications to ensure that people in regional areas that rely on satellite based broadband do not experience an inferior effective level of service.

Finding 2.2.7:

Broadband providers using satellite technology could do more to inform customers of the details of the service, particularly upload speeds, and provide greater assistance and advice to customers on satellite ‘friendly’ software and applications.

Reliability

The Committee heard throughout their consultations that, in the event of a fault, some customers are waiting significant periods of time for their broadband connections to be restored. Helpdesk operators for the ISPs would diagnose the fault as being the customer’s computer equipment or faulty modems and would recommend customers purchase new equipment to restore their connection. In a number of cases the new equipment did not restore the connection and customers were required to post their new modems back to the service provider at their own cost.

Further, the Committee heard in their Sydney consultation that regional Australian’s believe service providers would wait until there were a number of customers who needed a technician in a particular area before sending one out to fix the problems. This process could take some months and customers would be without a service for this period.³⁴

Finding 2.2.8:

Given the significance of telecommunications services and growing customer expectations, some consumers believe that the responsiveness of fault repair does not match consumers’ demands. Those consumers believe that they wait an unreasonable length of time for broadband faults to be repaired and regularly have to mail ‘faulty’ or ‘wrong’ equipment such as modems back to service providers.

Prices

The Committee heard during the consultations that many communities have been waiting for some time for broadband services provided on terrestrial infrastructure to reach them. As the installation charges and the ongoing monthly charges of satellite services for remote areas were more expensive than equivalent broadband services delivered using terrestrial infrastructure in urban areas, communities have registered on the Australian Government’s Broadband Service Locator and petitioned ISPs to provide terrestrial wireless or ADSL services but had not been successful. As one submission noted, *Decisions are based on profits and not on consumers needs.*³⁵

The Committee also notes that in some communities the provision of equitably priced broadband through terrestrial broadband solutions is not a ‘last mile’ problem, but a problem of availability or affordability of backhaul services. This issue is discussed in Chapter 2.5 — Backhaul.

Finding 2.2.9:

Some form of government subsidy is necessary to ensure the provision of broadband services in many of the remote areas of Australia. The business case for providing broadband services in these areas does not support market-driven outcomes at prices and speeds similar to those available in urban areas.

DISCUSSION AND RECOMMENDATIONS

Australia Broadband Guarantee

The Committee notes that parts of regional Australia will benefit from the Australian Government’s NBN project. This will address the availability of equitable broadband services for those premises to be covered by the network.

However, the Committee also notes that there will be premises not served by the NBN, or premises that will be served by the NBN that do not yet have an adequate level of broadband.

In consultation with communities, there appeared to be a general awareness that subsidised broadband services could be delivered through government programs such as the ABG. However, the Committee notes that ABG is the last of a series of programs (see Appendix F) that have all been individual short-run initiatives.

The ABG program and its precursor programs have revolutionised access to broadband services throughout regional Australia and helped facilitate the rollout of additional infrastructure to enable access for regional Australians. The Committee believes these programs have promoted competition in the regions and have assisted in closing the digital divide.

However, despite the significant benefits that have flowed to regional Australia as a result of the ABG program and its precursors, transitions from one program to the next and with funding in individual years running out, there have been thousands of customers left waiting for services, even though there was supposed to be a program to help them. These transitions have also created a difficult environment for providers and their investment decisions.

The Committee heard about a number of other deficiencies in earlier programs, including download limits, prices and available speeds. Also, under previous programs customers were not able to get an additional subsidy to move to another provider with higher download limits or with a lower monthly charge. The Committee notes the current response to many of the issues identified above was confirmed in the 2008–09 Budget when the Australian Government committed to continue to support the ABG through until 2012.³⁶

The Committee strongly believes that the current ABG program needs significant improvement to enable equitable access to broadband services for people in regional parts of Australia. Under the ABG a provider must offer a ‘threshold service’ comprising at least 512/128kbps with a monthly download allowance of 3GB for a maximum retail price of \$2500 over a three year period (around \$70 per month). The Committee strongly believes that the price point needs to be lower and service bundle improved for this ‘threshold service’. A quick comparison with services available in Queensland urban areas indicates over 90 broadband plans with a \$70 per month cost offering dramatically greater speed and data volumes than offered under the ABG. If significant improvements of the ABG are not made then regional Australia’s relative position will be falling further behind the rest of Australia.

Finding 2.2.10:

The ABG and its precursors have been highly successful in making broadband services available in regional areas. However, the capacity of ABG to deliver equitable speeds, prices and download limits needs to be resolved.

Finding 2.2.11:

The ABG and its precursors have been short-term and lacked continuity. This has not been conducive to the development of a stable market that encourages take-up of broadband and supports investment in infrastructure by providers.

NBN priorities

The Committee has already noted that the NBN request for proposals asks proponents the extent to which they can prioritise areas that cannot currently access speeds of 12Mbps. The Committee hopes that proponents of the NBN will carefully consider ways these areas can be prioritised.

One submission put it quite simply, *Remote areas need priority*.³⁷ It is understood that to build the network completely from the ‘outside in’ can be slightly more costly (in cash flow terms) as the additional revenues are lowest in these areas. However, the Australian

Government is allocating public money to the project for the purposes of serving unmet needs, not upgrading the technology in areas already served by speeds over 12Mbps.

People highly value the ability to choose their provider and the benefits that competition brings. As noted above, there currently is not the same amount of choice of services and service providers in regional and urban areas. Appropriate access arrangements to ensure a competitive environment under the NBN are required for the provision of choice to consumers to be realised.

The Committee understands that the regulatory treatment of the NBN is one aspect that may be negotiated with the successful proponent. However, the Committee encourages the Australian Government to ensure that appropriate arrangements are in place to allow fair and reasonable access terms for all third parties who seek access to the NBN to provide services to regional areas.

The reliability and restoration of broadband services is not currently covered by regulation. However the *ABG Guidelines for 2008–09* contain specific reliability and restoration standards that service providers must contractually adhere to. The Committee encourages the Australian Government to specify reliability and restoration standards that are equitable between urban and regional areas when negotiating the final agreement.

Finding 2.2.12:

When implemented, the NBN will improve services in some regional areas. Proponents of the NBN have been asked the extent to which they are able to prioritise areas that cannot currently access minimum speeds of 12Mbps. An 'outside in' build of the NBN will deliver significant social and economic benefits.

Interim solutions

The ABG program has been extended to 30 June 2012, and it will provide access to services, including to premises that will eventually be covered by the NBN. However, the Committee notes that there is a great disparity between the service available under the ABG and that proposed under the NBN.

The standard of service for the NBN of 12Mbps has been established with the view to the kinds of services that can be provided over that connection speed. A major application is real-time video, particularly significant if an end-user is going to access a service such as a live lecture as part of their education or ongoing professional development.

Therefore, the Committee is of the view that the ABG needs to continue to be reviewed to ensure equity of access to broadband services for people in regional areas.

The Committee supports the ABG model and strongly supports its extension until 2012 albeit in a modified form, noting its capacity to deliver equitable services to more remote areas efficiently and at least-cost.

However, in considering the threshold services as defined under the ABG, the Committee notes that important key factors such as ‘metro-comparability’ and ‘significance’ will change over time as newer services and platforms become available. As such, the Committee considers it realistic and necessary that the threshold services provided under the ABG should in turn be progressively and significantly increased to ensure that premises that will not receive the NBN receive adequate services that are significant to their needs. Further, as noted previously in the discussion on the ABG, the Committee strongly believes the ABG needs to be upgraded substantially if relative comparisons with services available in urban areas are to be maintained. A significant upgrade of the ABG is necessary for the implementation of the Communications Service Standards (CSS) recommended in Chapter 3.1 — A New Framework.

Solutions beyond the NBN

The Australian Government has also sought submissions on broadband solutions for remote areas.³⁸ The Committee has had the opportunity to review these submissions. They covered a number of approaches, including seeking funding for specific proposals, general funding initiatives and general policy. In particular, submissions were mixed as to whether they focused on the needs of backhaul transmission to additional locations or on the type of service to be supplied to the community. Many indicated that NBN proposals may cover more than the 98 per cent required in the Request for Proposals.

Submissions considering backhaul emphasised the opportunity to extend fibre backhaul in conjunction with the NBN.³⁹ Other submissions highlighted the relatively low cost of upgrading some of the existing radio links.⁴⁰ The Committee notes that the NBN will have the potential to result in a significant expansion of backhaul infrastructure. The Australian Government needs to ensure that this backhaul can be accessed by remote areas (as noted in Chapter 2.5 — Backhaul). Proposals to extend backhaul beyond the NBN cannot be properly considered until the extent of, and access to, the NBN backhaul is determined.

Other submissions focused on the kinds of technology that should be installed in the community. They promoted a number of alternative radio approaches together with greater use of the 3G mobile networks and use of ADSL once backhaul is available. Some submissions on both backhaul and access networks emphasised that population or

remoteness should not be the only factors used in assessing priorities, and that economic factors such as the amenities a town provides should be considered.⁴¹

Finally a number of submissions emphasised the fact that satellite can provide the speed requirements of the NBN, and will need to be used to reach some locations. These proponents recommended that the Australian Government make plans to secure the capacity that would be required to serve these customers.⁴²

The Committee expects the government will need to continue to make provisions for programs to provide broadband beyond the NBN, and that these programs will include initiatives to extend backhaul transmission. The Committee believes government will need to assess the likely extent of satellite programs into the future and consider whether long-term needs for satellite solutions can be met.

With the availability of backhaul and therefore high speed broadband services these rural and remote communities will have greater opportunities sooner rather than later and the Committee believes this will play a part in closing the gap of the digital divide.

Finding 2.2.13:

An 'outside in' build of the NBN will maximise the opportunities for broadband and terrestrial mobile infrastructure and resulting services to be provided to those communities not to be covered by the NBN.

In Chapter 3.1 — A New Framework, it is proposed that broadband services be one of the suite of services to be guaranteed universal service under the CSS. In that chapter, transition issues are also discussed, including the need for the Australian Government to improve infrastructure as a necessary pre-cursor to the introduction of the CSS. The Government action in doing this is likely to have a substantial impact on interim solutions pending the roll-out of the NBN as well driving the development of interim solutions for those who will not be served by the NBN. The Committee considers that the Government should approach this issue in a coordinated and structured way. The Committee proposes such a process in implementing the new framework. This is discussed further in Chapter 3.1 — A New Framework.

Public access to the internet

The Committee has noted the importance of public internet access and the need for more information on the availability of these services in regional Australia. This sector of the internet market comprises both government funded bodies such as libraries, private 'for profit' commercial enterprises operating internet cafes, and community organisations which may be funded through a combination of public funds and commercial charges. Any intervention by governments in this market would need to avoid harming the commercial operators. The Committee is of the view, that at this time, the governments should take action to obtain more information on public internet access services. The Committee also considers that in the future there may be a need for governments programs to ensure service adequacy.

Monitoring

In considering the measures to provide broadband services to regional areas, the Committee also notes the importance of accurate information on broadband services and needs. This information is important to allow a better measure of what is 'significant' to people in regional areas and the scope of 'metro-comparability'.

The Committee believes that the quality of statistical information on broadband take-up and usage does not currently allow a fully informed consideration of the needs of regional areas. The Committee suggests the government explore measures to collect better statistics of broadband, particularly in regional areas.

The Committee had wanted to include in the Report maps showing areas within Australia where broadband is likely to be available through ADSL technologies. Unfortunately, these were unable to be provided by the Department of Broadband, Communications and the Digital Economy.

Finding 2.2.14:

Broadband statistics are not adequate to facilitate an accurate picture of broadband usage, service availability, or needs in regional, rural and remote areas.

FUTURE ARRANGEMENTS

The Committee notes the significant calls for the extension of the USO to incorporate some kind of data service. These have been included in both submissions⁴³ to this Committee and in the recent submissions on the NBN regulatory arrangements.⁴⁴ These suggestions are not new and, as described in more detail in Appendix F, there have been a number of reviews that have reached similar conclusions.

The response over time to these calls has been a succession of legislative amendments and specific programs designed to provide a greater reach of data and broadband services. However, at the same time as these programs have been implemented, the services available in urban areas have continued to develop. These developments are driven in turn by the ongoing reduction in the costs of storage and processing technology and the developments in transmission technologies.

Accordingly, it is not appropriate to attempt to specify a standard of broadband availability in legislation. Similarly, it is not appropriate to extend the availability of broadband by specifying an obligation on a specific provider. However, the Committee does believe that the time has come to provide a greater degree of certainty for regional areas and that all levels of government need to remain committed to ongoing programs to ensure the availability of equitable access to significant services.

As this requirement extends to services other than broadband, the Committee has provided its recommendations in this area in Chapter 3.1 — A New Framework where a proposed ‘communications service standard’ is discussed.

SUMMARY OF FINDINGS

Finding 2.2.1:

A significant number of consumers continue to access the internet through dial-up and ISDN. Consumers are concerned that they should not be forced to acquire more expensive broadband services as their only choice.

Finding 2.2.2:

Broadband services are vital to the economic and social well-being of people, businesses and communities in regional Australia.

Finding 2.2.3:

People in regional Australia do not have access to broadband services on equitable terms to those applying in urban areas with regard to price, speed and download limits.

Finding 2.2.4:

Public access to the internet through libraries, internet cafes and internet access centres continue to be important for regional communities. There is a need for information on the availability of public internet access.

Finding 2.2.5:

The degree of choice in broadband services and providers available to regional areas is less than in urban areas and this lack of choice is most apparent in rural and remote areas.

Finding 2.2.6:

Technical jargon is inhibiting consumer understanding of complicated and confusing broadband plans. Consumers are not able to easily compare plans between service providers and have difficulty understanding the technical terms used in the plans.

Finding 2.2.7:

Broadband providers using satellite technology could do more to inform customers of the details of the service, particularly upload speeds, and provide greater assistance and advice to customers on satellite 'friendly' software and applications.

Finding 2.2.8:

Given the significance of telecommunications services and growing customer expectations, some consumers believe that the responsiveness of fault repair does not match consumers' demands. Those consumers believe that they wait an unreasonable length of time for broadband faults to be repaired and regularly have to mail 'faulty' or 'wrong' equipment such as modems back to service providers.

Finding 2.2.9:

Some form of government subsidy is necessary to ensure the provision of broadband services in many of the more remote areas of Australia. The business case for providing broadband services in these areas does not support market-driven outcomes at prices and speeds similar to those available in urban areas.

Finding 2.2.10:

The ABG and its precursors have been highly successful in making broadband services available in regional areas. However, the capacity of ABG to deliver equitable speeds, prices and download limits needs to be resolved.

Finding 2.2.11:

The ABG and its precursors have been short-term and lacked continuity. This has not been conducive to the development of a stable market that encourages take-up of broadband and supports investment in infrastructure by providers.

Finding 2.2.12:

When implemented, the NBN will improve services in some regional areas. Proponents of the NBN have been asked the extent to which they are able to prioritise areas that cannot currently access minimum speeds of 12Mbps. An 'outside in' build of the NBN will deliver significant social and economic benefits.

Finding 2.2.13:

An 'outside in' build of the NBN will maximise the opportunities for broadband and terrestrial mobile infrastructure and resulting services to be provided to those communities not to be covered by the NBN.

Finding 2.2.14:

Broadband statistics are not adequate to facilitate an accurate picture of broadband usage, service availability, or needs in regional, rural and remote areas.

RECOMMENDATIONS

Recommendation

2.2.1:

In accordance with the arrangements and criteria set out in Chapter 3.1 – A New Framework, the Australian Government:

- a. introduce measures to provide enhanced broadband services to premises that will not be served by the NBN and these be delivered in an equitable timeframe, and certainly prior to the completion of the NBN, and
- b. provide interim solutions until the NBN is accessible in regional areas. The solutions provided should maintain, and improve on, the contemporary comparisons with urban areas.

Recommendation 2.2.2:

The Australian Government work with industry to:

- a. make service provider offerings to consumers easily comparable and easy to understand, and
- b. assist in the development, availability, and awareness of applications for broadband provided over satellite.

Recommendation 2.2.3:

The Australian Government monitor the availability of public internet access services and explore the opportunities in future frameworks for public internet access services.

Recommendation 2.2.4:

The Australian Government engage providers and other relevant parties to improve the quality and provision of statistics on broadband usage, service availability, and needs in regional, rural and remote areas.

Other relevant recommendations are:

- a. on training, support and applications: Recommendation 1.1.1, Recommendation 1.6.2
- b. on infrastructure improvements for regional areas: Recommendation 3.1.7
- c. inclusion of broadband in ‘universal service’ arrangements: Recommendation 3.1.1

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The Darwin coastline, NT. 15 April 2008.

CHAPTER 2.3 — VOICE TELEPHONY SERVICES

INTRODUCTION

Voice telephony has been in use commercially in Australia since 1879, when the Robison Brothers used it to provide communications between their Flinders Street office in Melbourne and their foundry in South Melbourne. At Federation in 1901, there were 33 000 offices and houses connected to the network. Responsibility for telephonic services moved then to the newly created Commonwealth Postmaster General's Department.¹ Today there are approximately 11 million fixed voice services in Australia and over 20 million mobile voice services.²

This chapter has been titled 'Voice Telephony Services' to emphasise the key functionality requirement, that is, the ability to make a voice call. It discusses what otherwise could be called 'private fixed voice' services as distinct from mobile voice services or public voice services (that is, payphones). The major distinction between mobile and fixed voice for people in regional Australia is the expected greater reliability of the service they consider to be fixed.

Since the late 1980s, successive Australian Governments have encouraged competition by dismantling the monopoly of publicly owned telecommunications. Detailed and complex regulatory arrangements have accompanied this market liberalisation. Currently many separate pieces of legislation cover telecommunications: some deal with market activity, some with content regulation and some with general trade practices and competition. Details on the current regulatory arrangements are provided in Appendix F.

In July 1997 there were 10 pieces of Commonwealth legislation determining the regulation of the telecommunications industry, but by October 2005 there were 19. Over the same period, the number of subordinate regulatory instruments, both legislative and self-regulatory, went from 10 to 329. The number of pages of codes, specifications, legislation, directions, standards, declarations, determinations and notices went from 1602 pages in 1997 to 10 013 pages in 2005.³

Voice communications is one of the most heavily regulated services in Australia. The development of broadband and the convergence of telecommunications technologies and devices have made regulation and management more difficult for government and providers. The principal regulator for the sector, the Australian Communications and Media Authority (ACMA), believes Australia is now ready for a more streamlined regulatory framework.⁴

TECHNOLOGIES USED TO PROVIDE SERVICES

Voice telephony allows people to speak with others on the network, using an interoperable handset. The original 'plain-old-telephone-service' (sometimes called POTS) provided communication between people via analogue voice modulation of a carrier signal. Later developments allowed these services to support machine to machine communications using audio transmission (such as a fax machine) or the sharing of the copper cable or radio link for data communications (such as ISDN).

Recent technological changes are changing the environment for voice telephony. The transmission network between exchanges has changed from analogue (the same copper pairs that service customers' premises) to totally digital networks. Networks have moved from a system that created a continuous electrical circuit from one point to another through switching.

Today, networks increasingly rely on Internet Protocol (IP) or other packet switching, sending discrete packets of digital data through a variety of routes to be re-assembled at the destination. The new technologies allow voice services to be provided through Voice Over Internet Protocol (VOIP). Voice, both fixed services and mobile, is also being increasingly provided using mobile phone or cellular infrastructure. Both VOIP and mobile voice communications have grown very rapidly. These innovations have helped to lower the costs of voice service while increasing the choices available to regional, rural and remote consumers.

In general terms, networks providing voice telephony consist of a customer access network (CAN) that connects customer premises to an exchange. The exchanges are then linked together by a transmission network. In the traditional voice network, this transmission is usually described as being part of either the inter-exchange network (IEN) or the trunk network. The distinction between the two is that the IEN connects an exchange to other exchanges or trunk exchanges, whereas the trunk network connects trunk exchanges. Transmission networks are also generically referred to as 'backhaul'.

The CAN includes a variety of transmission media such as:

- twisted copper wires
- optical fibre
- coaxial cable, and
- wireless (this includes fixed point-to-point wireless links, both terrestrial and satellite based, and the use of mobile telephony infrastructure)

The infrastructure can also include a number of subsidiary elements including pillars, nodes, concentrators, multiplexers and remote switching stages. In its various forms, the transmission technology can be changed before the connection is made to the exchange. For example, the Pay TV network deployed by Optus is also used for telephony, but the coaxial access to the premises is aggregated into fibre connections before reaching the exchange. This is referred to as hybrid fibre coax (HFC).

The twisted copper pair network operated by Telstra sometimes connects premises to subsidiary exchange buildings that are not local exchanges but are instead a remote switching stage. In addition, most facilities in regional Australia that used to be ‘exchanges’ are now passive line concentrators.

The most common voice technology used throughout Australia, and particularly in urban areas, is a simple pair of copper wires connected from the premises to Telstra’s exchange. In regional Australia other technologies are also used. These include dedicated HCRC (High Capacity Radio Concentrator) — a microwave technology that provides expanded telephony capacity, together with facsimile and faster dial-up data services to customers in remote areas) with satellite links, and mobile wireless technologies.

REGULATORY ARRANGEMENTS AND AUSTRALIAN GOVERNMENT POLICIES AND PROGRAMS

As noted above, the regulatory arrangements in telecommunications are complex. They are discussed in more detail in Appendix F. This part of the report provides a summary of some of the regulatory provisions that are particularly relevant to the Review.

The table below summarises the complex set of regulations for voice services.

Table 2.3.1: Summary of consumer regulations applying to fixed voice services.

Universal Service Obligation (USO)	Requires Telstra to take ‘reasonable steps’ to fulfil the USO and to comply with Telstra’s USO marketing plan and policy statement.
Customer Service Guarantee (CSG)	Provides for compensation to customers where service providers fail to meet regulated connection or repair times or fail to keep appointments.

Priority assistance	Telstra is required to offer priority connection and repairs for those who register with their provider that they have a life-threatening condition.
Network Reliability Framework (NRF)	Reduces the incidence of faults experienced by consumers whose services are provided over Telstra's network. The framework requires Telstra to report to ACMA on the performance of its network and to undertake remedial activity in specified circumstances.
Access to untimed local calls	Legislation requires ongoing access to untimed local calls. Enhanced protection is provided by a contractual agreement between Telstra and the Australian Government that provides untimed local calls to Telstra's customers in the 'extended zones' in exchange for receiving \$150 million of public funds. This arrangement expires in May 2011.
Telstra price controls	Requires Telstra to pass on productivity gains to consumers through lower prices for services where price reductions are unlikely to be achieved by competitive pressure. It also requires Telstra to offer basic line rental and untimed local call services in non-urban areas at the same rate as it offers them in urban areas.
Telstra Local Presence Plan	Telstra is obliged to maintain a local presence plan that sets out its range of activities and strategies in regional, rural and remote Australia.
Telecommunications Industry Ombudsman (TIO) Scheme	All providers are required to join the TIO scheme which provides an industry funded and managed dispute resolution service between providers and individual and small business consumers.
Access to emergency calls	Requires the provision of an emergency call service as an operator-assisted service that connects a caller, free of charge, to police, fire or ambulance in a life threatening or time critical situation.
Carrier pre-selection	Requires that providers offering voice services must allow the customer to 'pre-select' another provider for long distance calls.

These are just the more significant consumer protections relevant to fixed voice services. The USO, CSG, Telstra Local Presence Plan, Priority Assistance and NRF are discussed below. These discussions do not focus on the adequacy of services in regional areas versus urban areas. However, the regulations are important in assuring the adequacy of services.

As well as the consumer protections, the regulatory regime features a number of elements to promote competition. The most significant of these for voice services is the requirement for a standard telephone service to be capable of pre-selection and the services that are 'declared' under the access regime in Part XIC of the *Trade Practices Act 1974* (see Appendix F for more detail).

Pre-selection allows the customer to advise their access line provider of their choice of carrier for long distance calls. Once advised, the line provider directs all long distance calls to the chosen long distance provider. Customers can still select a provider on a call by call basis by dialling an override code. In this context long distance calls mean all direct dialled long distance and international calls, as well as calls to mobiles and operator services.

Pre-selection seems to be less important today as providers offer bundled services with discounts that are conditional on the customer pre-selecting that provider. The Committee heard during consultations⁵ that the provider, Telstra, is also supplying fixed voice services to some customers in regional Australia using its 3G mobile technology without pre-selection.

The relevant declared services are the Wholesale Line Rental Service and the Local Carriage Service, which together enable another provider to take responsibility for service and billing for the local line.

Universal service obligation

The intent of the USO is to ensure 'standard telephone services' are reasonably accessible to all people in Australia on an equitable basis, wherever they reside or carry on a business.⁶ The *Telecommunications (Consumer Protection and Service Standards) Act* requires Telstra (currently the sole universal service provider)⁷ to 'take all reasonable steps to fulfil the USO' and to comply with its own policy statement and marketing plan on the USO.⁸

The universal service provider is required to have a policy statement and marketing plan approved by the ACMA. The policy statement and marketing plan outline how the provider intends to fulfil its obligations as universal service provider, including fulfilling its obligations to people with a disability, people with special needs and eligible priority customers.⁹

A component of the USO regime states that losses resulting from supplying services in the course of fulfilling the obligation are to be shared among carriers. The mechanism is for carriers to be levied a contribution to subsidise the USO provider's losses through an industry specific tax.

The operation of the levy and subsidy scheme has been contentious. In April 2007, the Australian Government announced a review of the USO that *...will look at the current industry obligations and determine whether the load is being equally shared among telecommunications providers.*¹⁰

A number of submissions to the Committee noted that the USO needed to be reviewed and upgraded. They argued that the USO should be expanded to apply to other communications services that are overtaking voice in importance. The Pastoralists' Association of West Darling (PAWD) noted:

*Along with a number of other organisations representing people living in remote areas the PAWD has been for many years calling for a review and upgrade of the Universal Service Obligation from a standard voice service to a standard telecommunications service to include data standards.*¹¹

This view was supported by the NSW Farmers' Association, *USO and CSG should be broadened to include data standards as well as telephony standards.*¹²

The Committee heard in various public meetings¹³ that, in the absence of effective competition for USO services, the provider had little incentive to be responsive in fixing faults, connecting new services, improving reliability and/or introducing innovative services that better meet the needs of rural and remote Australians, other than the incentive to avoid contravening regulations.

There is substantial controversy about the current USO arrangements and the Committee notes that nearly all stakeholders dislike the current arrangements.¹⁴

ACMA referred to the USO arrangements as a 'broken concept'.¹⁵

The Committee offers the following summary of issues surrounding the current USO:

- By subsidising a single provider to supply service below cost, the USO discourages the entry of competitive suppliers. This lack of competition gives the provider little incentive to improve or repair services, or to be innovative. The development of more regulations in response to this problem has only been partially effective.

- The current arrangements are vague. Members of the public are unsure what the USO provides to them. The precise meaning of what is ‘reasonably accessible’, ‘on an equitable basis’, or ‘reasonable steps’ is left to Telstra, although Telstra’s Standard Marketing Plan is subject to ACMA approval. Business and individuals have expressed little confidence about USO outcomes in their submissions. Further, there is limited scope for personal or business consumers to enforce or challenge the fulfilment of the USO. The only recourse is to complain to ACMA.
- ACMA in turn finds enforcement problematic, due to the lack of clarity in the regulatory framework. ACMA’s suggestions for better explanations to manage consumer expectations are unlikely to resolve these issues.¹⁶
- The current USO only covers voice communications services delivered over standard telephones. There are frequent requests to extend the USO to cover mobile, data and internet communications. However, the USO is impractical to extend to other services (for further discussion see Chapter 3.1 — A New Framework).
- Australian Government programs outside the USO aimed at improving telecommunications services that are covered by the USO indicate it is not achieving policy outcomes. For example, the USO supposedly ensures universal access to payphones. However, the Australian Government has a separate program in place to provide community phones to remote Indigenous communities.
- Technical developments now mean that a voice service can be provided in many instances on a more cost effective and efficient basis through a broadband or mobile connection, but the current USO structure precludes this.
- The fiscal arrangements for the cost of the current USO are currently inefficient and not well structured. The funding is recovered by an industry specific tax that imposes an additional administrative burden on the carriers and ACMA. ACMA states that the current funding, costing and administrative arrangements are not structured to reflect the considerable differences associated with the diverse range of services and user needs.¹⁷ As it stands, the USO levy has the effect of imposing an additional service tax on telecommunications services. Given the significant contribution of telecommunications services to productivity improvements in the Australian economy, and its significance to business activity generally, the cost to the economy from raising the revenue needed for the USO through an industry specific tax is likely to be significantly more than general taxation.¹⁸

Finding 2.3.1:

The current arrangements for the USO are not working well and a fresh approach is needed.

Customer service guarantee

The CSG is an incentive for telephone companies to improve services. It requires providers to compensate customers when standards for connection or service restoration are not met.

The Regional Telecommunications Inquiry in 2002 made recommendations¹⁹ to strengthen CSG timeframes in rural and remote areas for the connection and repair of the standard telephone service (STS) supplied to residential and small business customers. The recommendation and Australian Government response are discussed in Appendix G — RTI outcomes.

Under the CSG standard²⁰, a service provider can claim an exemption from connection and fault repair requirements by giving public notice of a mass service disruption (MSD). During 2006–07, Telstra declared 13 MSDs, 12 of which were due to extreme weather conditions and one due to damaged cable or networks. The average number of Telstra services affected was 2302 for an average exemption period of eight working days.²¹

The Committee heard that in some communities where a MSD was claimed, the disruption was not relevant to the outage.²² These communities felt the MSD provisions allowed a carrier to waive its CSG commitments. For example, Telstra declared on 8 February 2008 an MSD for the whole of South Australia for seven weeks, exempting itself from CSG obligations' because it needed to send staff north to Queensland to deal with the floods.²³ The CSG standard specifically provides for an MSD to apply in this circumstance.²⁴ The Committee sought advice from ACMA on this issue. ACMA advises:

While there is a requirement to notify ACMA (and the TIO) of the exemption claimed, ACMA has no role in approving exemptions.

Telstra has made extensive use of these provisions in the first quarter of 2008 due to the extreme weather events experienced in Queensland and Northern NSW. Exemptions have been claimed in both the areas directly affected by these events and other areas from which Telstra has drawn resources to send to the weather affected areas. This is in line with the provisions of the CSG Standard.²⁵

In Sydney, the Committee heard about poor line maintenance practices such as exposed lines on the ground or in trees contributing to delays in repairs. The Communications,

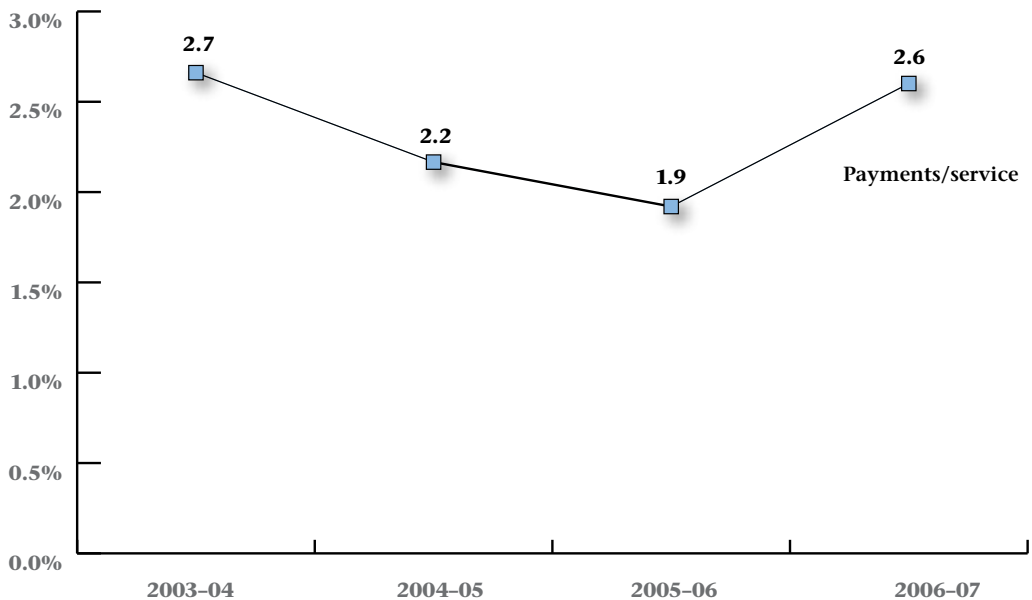
Electrical and Plumbing Union (CEPU) submission noted poor industry practices when it comes to the repair and maintenance of networks, noting, *A public manifestation of the backlog is the large number of Telstra pits surrounded by safety guards which can be seen around Australia.*²⁶

On 31 October 2006, ACMA increased the compensation payable to customers for CSG breaches by about 21 per cent. The changes also reduce the ability of service providers to claim for exemption in cases of predictable weather events and require them to provide documentary evidence to substantiate claims for exemptions due to extreme weather events.²⁷

It appears that the current CSG arrangements still do not provide sufficient incentives for carriers to improve their performance. Data from ACMA supports this view. The number of CSG payments being made across all providers showed some declines from 2003–04 to 2005–06, but the 2006–07 result is about the same as that in 2003–04.²⁸ The chart below shows the number of compensation payments made by all providers as a percentage of the number of eligible services.

Figure 2.3.1: CSG compensation — Payments/eligible service (aggregate all providers)

An eligible CSG service can be ‘contracted out’ or waived if the customer agrees. This frequently occurs in circumstances where the customer has little real choice in the



matter, for example, when voice services are offered to be delivered using technology platforms such as wireless or satellite in a reasonable period compared to the customer having to wait months for a service to which the CSG would apply. This can impact on CSG rights. The Pastoralists' Association of West Darling noted that it *...is concerned that Telstra is not offering a CSG with the new Next G wireless link service.*²⁹

Finding 2.3.2:

The CSG arrangements are not providing sufficient incentive for carriers to improve service performance.

Telstra local presence plan

The Regional Telecommunications Inquiry (RTI) 2002 recommended³⁰ that Telstra be required to maintain an ongoing local presence in regional Australia. In August 2005, the Australian Government imposed a licence condition on Telstra. It requires that Telstra have a Local Presence Plan (LPP) that sets out its activities and strategies to fulfil the local presence obligation. The LPP essentially provides local management and senior executive responsibility for regional, rural and remote telecommunications.

Telstra developed a LPP that came into effect in July 2006 and is in force until July 2009. Telstra is required to revise its plan and re-submit it for approval every three years. They must report annually to the Australian Government and to ACMA on the progress of the LPP.

The LPP arrangements have not been in force long enough for the Committee to assess their effectiveness. The Committee notes that despite the LPP being recommended by the RTI in 2002, it took four years for one to be finalised.

The issue still concerns people in regional Australia. For example, Louise Draper in her submission stated:

*We were told at the time by Telstra Countrywide that they were 12 technicians short in the region at the moment, which is why they are slow repairing faults. This will not help the current shortage of technicians or improve their ability to act on their return to service guarantee.*³¹

This claim was also supported by the Hon Bob Katter MP, who noted that, *...there are only two technicians based at the Karumba/Normanton (Queensland), they service an area the size of the state of Victoria including...the Gulf fishing fleet.*³²

Despite this, the Committee believes that the need for an LPP reflects the failure of other arrangements in assuring satisfactory levels of service in regional Australia. It attempts to address service shortcomings by encouraging a greater local presence of personnel. In doing this, the LPP involves the Australian Government to some extent in the internal management and operation of one telephone company.

Finding 2.3.3:

There is insufficient data on the operation of Telstra's Local Presence Plan for the Committee to assess its effectiveness.

Priority assistance

As part of its carrier licence condition,³³ Telstra must provide a priority assistance service. This is designed to help people with diagnosed life-threatening medical conditions that depend on a reliable home telephone service to call for help when needed. Priority assistance customers are entitled to faster connection and fault repair of their telephone service and a greater level of reliability.

Telstra is the only carrier required to provide priority assistance services to its customers as a condition of its licence. AAPT and Primus voluntarily offer priority assistance services in accordance with the *Australian Communications Industry Forum Priority Assistance Code*. Optus offers a similar service for timely repair, known as the Optus Special Assistance Service, for residential customers with eligible medical conditions.

Network reliability framework

Telstra is required, as part of its carrier licence condition,³⁴ to comply with NRF arrangements. The NRF is a safeguard for consumers that aims to improve the reliability of Telstra's fixed line services. Under the NRF, ACMA monitors the reliability of Telstra's fixed telephone network at three levels:

- Level 1: nationally and Telstra's 44 field service areas
- Level 2: reporting and remediation of poorly-performing cable runs, and
- Level 3: individual services that contravene certain fault thresholds.

The NRF only applies to services Telstra provides to its CSG-eligible customers — household and small business fixed-line customers with five lines or less.

The Regional Telecommunications Inquiry recommended³⁵ that the Australian Government should adjust and refine the NRF as necessary over time to improve its operation. The Australian Government made changes to the NRF to better target poorly performing parts of Telstra's network in regional, rural and remote areas. These took effect in October 2006. Telstra is also now required to provide information on services that experience faults after remediation in a separate monitoring period.

As of 30 June 2007, Telstra had completed remediation of 124 cable runs under the level 2 NRF reporting arrangements. Telstra also chose to voluntarily remediate an additional 62 cable runs that were associated with the nominated cable runs. While a small number of individual services have contravened the performance thresholds for level 3 NRF reporting, in 2005–06 there was a 22 per cent increase in the number of contraventions (compared to the previous year).³⁶ This affected some 2237 individual telephone services in 2005–06 representing 0.007 per cent of Telstra's CSG eligible services.

Complaints were also raised over the accuracy of Telstra's performance data. At the Sydney meeting, the Committee heard that under current fault reporting arrangements, a fault which could affect 30–40 phone lines would be logged as one fault and at the Narrabri public meeting concern was expressed in relation to logging faults. The Committee heard examples where customers either did not receive a fault reference number, or that only one fault reference number was given to the individual caller who was reporting on his/her own behalf plus several other customers experiencing similar faults in the same area at the same time. In this latter case, although the fault was technically registered, the extent or severity of the fault problem appears not to have been recorded or reported on. A possible reason for this is that due to privacy consideration, Telstra was unable to provide a fault reference unless each customer affected by the fault made an individual complaint. The Committee found in its consultations that many consumers are dissatisfied with the fault reporting process.

The Committee heard during consultations (such as the Kununurra and Narrabri public meetings)³⁷ that the overall level of maintenance of fixed-line telecommunications infrastructure is dropping off. Participants argued that this is reflected in increased numbers of faults and failures to meet repair time frames, especially in more remote areas.

The Committee also heard that in February and March 2008, there occurred a widespread problem to fixed phone services in the Riverina district, following normal rainfall. This disruption was attributed to the failure of adequate line maintenance.³⁸

Finding 2.3.4:

There are concerns that the fault reporting data is not accurate.

Finding 2.3.5:

The Network Reliability Framework does not meet its current objectives in reducing the number of faults in the fixed-line network.

STATE OF THE MARKET

The provision of fixed voice services in Australia remains almost universal. There are nearly 11 million fixed voice services supplied to households and businesses in Australia.

The fixed voice market is competitive with more than 360 telephone companies selling voice telephone services in Australia. Of these, more than 160 are offering services over the conventional fixed-line network (PSTN) and more than 240 are offering VOIP-based services (with more than 70 companies providing both PSTN and VOIP services).³⁹

More than 150 VOIP service providers target the residential consumer and small to medium business market.⁴⁰ One of VOIP's biggest selling features is cheap call rates, especially internationally. In addition, ISPs are active in the traditional fixed voice market, with more than 80 ISPs providing voice services as part of bundled broadband internet packages.⁴¹

While VOIP offers significant potential advantages for consumers, it does require a broadband service. If broadband in regional Australia is more expensive or technically unable to support VOIP, these advantages will be reduced for people in regional Australia.

The choices available to individual consumers depend on their location and local infrastructure. Most customers who can connect to a Telstra fixed-line phone can choose their long distance provider through carrier pre-selection (this does not apply to customers in the extended zones, nor to those customers who have agreed to be supplied their fixed-line service using Telstra's 3G mobile infrastructure). Most of these providers will also undertake to provide the basic line by acquiring the wholesale line rental local carriage service from Telstra. These are currently declared services under the *Trade Practices Act 1974* Part XIC access regime (described in Appendix F).

In urban areas, some customers also have the choice of voice service provided entirely over the Optus HFC Pay TV network or the TransACT service in Canberra. Some regional centres have similar offerings, for example, Neighbourhood cable. Where broadband services of sufficient quality are available, customers can choose from VOIP providers. In some locations broadband providers using Telstra's unconditioned local loop service

are offering their own version of traditional voice. There are also alternative providers of voice services by satellite. Finally, as mentioned above, voice over a mobile is a substitute for fixed voice, but as detailed in Chapter 2.1 — Mobile Communication the level of choice will vary by location.

The largest corporate and business customers in urban areas will often connect to their carrier by a dedicated fibre. This option is technically available in regional areas where the business is near a network node (that is, an exchange) but then the availability and price of backhaul becomes an issue (see Chapter 2.5 — Backhaul).

In summary, some consumers in regional areas can have a similar choice of voice providers as urban areas, if they are using a traditional copper access line. In cases where their service is provided by Telstra's Next G™ wireless or they are in the extended zones pre-selection choice is not available. Due to longer copper runs, competition over ULL is not available for voice services, and where the consumer does not have a price comparable broadband without latency they may not be able to use any of the 150 VOIP providers. Therefore, competition for fixed voice is less intense in regional Australia than in urban areas.

Finding 2.3.6:

Competition for fixed voice is less intense in regional Australia than in urban areas.

SIGNIFICANCE OF VOICE TELEPHONY SERVICES

Voice communications will no doubt remain an 'essential service', although the way it is delivered may evolve further. Access to a basic phone service, no matter where one lives or works, is a reasonable expectation in modern Australia.

The rural public understands the significance of further services. As one submission phrased it:

It is obvious that having an appropriate telecommunications network including fixed phone service, a mobile service that covers the entire area and a successful internet service will bring much public benefit to this area.⁴²

Part 1 of this report has analysed the significance of services to regional Australia in a number of sectors. The importance of voice communications comes through in a number of these: health, Indigenous Australia, emergency services, government, agriculture and resource industries.

Voice services are still the main way emergency assistance is called in critical times of need. Submissions noted that, *...reliable fixed line voice and data services are imperative,*⁴³ and, *...we need to be guaranteed that the fixed phone will be serviced and faults rectified as a matter of urgency.*⁴⁴

Submissions emphasised the importance of reliability and access to a priority service in emergencies, *...fixed-line voice with the availability of priority assistance when required in all areas.*⁴⁵

Alternative voice services are considered less reliable and, therefore, less useful.

Finding 2.3.7:

The community continues to value a fixed voice connection for social inclusion, business and emergency situations.

ADEQUACY OF VOICE TELEPHONY SERVICES

Voice services are generally adequate in regional Australia, but there remain some significant gaps. There is an ongoing need for the Australian Government to ensure that regional areas:

- continue to get equitable access
- issues with regulatory arrangements are resolved, and
- inequitable aspects to the CSG are resolved.

While market competition for voice services remains weaker in regional areas, VOIP and urban competition is helping to offer regional Australians more choice and better prices. However, many consumers still have no effective choice of access line provider and so rely heavily on regulatory arrangements to guarantee service availability and reliability. As discussed above, current arrangements do not seem to be working well enough.

The CSG is designed to operate as an incentive to improve performance, but performance continues to decline and providers use the opportunity to ‘contract out’ of the guarantee.

Technology change and new Australian Government policies offer an opportunity for significant improvement. The NBN creates the opportunity to reconsider many aspects of the regulations that were predicated on earlier architectures.

This chapter has already discussed the effectiveness of the regulatory arrangements in general, and noted that regional Australia is more dependent on the regulatory framework for the delivery of services than people in urban areas. However, the Committee also heard in its consultations specific concerns about service reliability issues that are not equitable between regional and urban areas. An example of this is consumers with little choice being offered Next G™ wireless link voice service as their primary voice service, but on the contract condition that they waive their CSG rights.

The reported number of telephones covered by the CSG standard declined in 2006–07 by 9 per cent to 7.905 million.⁴⁶ The decrease is three times greater than the reduction in fixed-line services over this period. It is possible that this reduction reflects increasing use of the customer waiver to exclude the CSG and/or the growth in voice services that do not satisfy the definition of the standard telephone service that applies to the CSG.

Many submissions indicated that consumers in rural and remote areas are dissatisfied with delays in repairs to services and, in particular, the exclusion of weekends in the performance periods for new connections and fault repairs. Claire Baines notes:

*We do sometimes have huge delays with repairs to lines. Sometimes we can be without contact to the outside world for up to a week.*⁴⁷

This claim was supported by Louise Draper, who commented:

*We have been off the air for six days recently, and heard several anecdotal reports of businesses being without telecommunications services for up to two weeks in our region.*⁴⁸

The extent of the difference to urban areas was also noted:

*If you ran a business in Brisbane and had to wait three weeks for Telstra to do a repair, the Sunday Mail would hear about it.*⁴⁹

As noted above, the CSG incentives seem to be having less impact. This is reflected in the:

- increasing use of the waiver to exclude the CSG
- declining performance against the CSG timeframes, reflecting a preference by the telephone companies to pay the compensation rather than meet the timeframe, and
- increased use of MSDs to avoid the CSG.

Society is becoming increasingly focused on availability 24 hours per day and seven days per week. There is some concern that continuing to specify the CSG in terms of working days is out-dated. And given the disparity between repair times specified in the CSG standard, the consequence of a working day instead of calendar day definition is more highly felt in regional areas than in urban areas.

The Committee is also of the view that despite the changes to the CSG, the process for exemptions such as MSDs is too subjective. The Committee believes that exemptions need to be further tightened and should only be able to be claimed on objective criteria, for example, by reference to specific meteorological, insurance industry and emergency declaration standards.

Extended zones

The area known as the 'extended zones' cover close to 80 per cent of Australia's land area. They constitute the most remote parts of the continent and were the areas not provided with an untimed local call to adjacent exchange areas as part of the original 1997 legislative framework. Consumers in the extended zones could not call their nearest service centre on an untimed local call basis.

Telstra is required under clause 18 of its carrier licence condition⁵⁰ to provide access to untimed local calls, untimed internet access and other carrier services to extended zones. This requirement is established by Telstra's agreement with the Commonwealth dated 1 June 2001, which operates for 10 years. Under the agreement, the Australian Government is paying Telstra \$150 million.

The Committee heard during consultations that consumers in the most remote parts of Australia greatly value access to untimed calls at the local call rate. The Committee notes that the Extended Zone agreement is due to expire in 2011 and end-users in the extended zones are uncertain about what future arrangements might be introduced.

The Committee is of the strong view that urgent action is needed to ensure that infrastructure in the extended zones is improved. Recommendation 3.1.7 in Chapter 3.1 — A New Framework sets out a process to do this.

Finding 2.3.8:

Current voice services are generally adequate in regional areas although there are still gaps. Australian Government intervention is likely to still be required to provide assurance of service availability.

Finding 2.3.9:

The standards for service repairs are not equitable between regional and urban areas and need to be improved for regional areas.

DISCUSSION AND RECOMMENDATIONS

The Australian Government's NBN project will have significant impacts on the provision of voice services in the areas where it is available. It was Telstra's stated intention with its proposed version of the NBN covering urban areas, announced in 2005, to replace its existing voice network switches with 'five paired soft switches'.⁵¹

The current suite of regulatory provisions for voice service will come under review as part of the NBN project. While the submissions on the regulatory arrangements have been reviewed by the Committee, the final arrangements will not be known until the Australian Government completes its selection of the NBN partner. The request for proposal asks proponents for details on regulatory arrangements that would need to apply.

There has been a tendency for discussion to focus on the issues of network access and industry structure in these, but the arrangements will need to consider whether the existing consumer protections, especially the USO and CSG provisions, need to be revised.

The Committee has found that the USO arrangements are obscure and vague. In its consultations, the Committee found a poor awareness of the USO arrangements and even poorer understanding of how they operate. The Committee acknowledges that consumers should not need to know the details of these arrangements. However, the lack of awareness, coupled with the service delivery shortcomings, underlines problems with the current regulatory framework. The Committee notes that nearly all stakeholders dislike the current USO arrangements. Given this, the universal service regime as currently framed in the telecommunications legislation is not completely effective.

The Committee believes that the transition to the NBN presents the opportunity to fundamentally redesign the provisions that aim to deliver a universally available and affordable voice and other service of a desired quality and reliability.

A new regulatory framework is needed to replace the existing USO legislation. The new legislation would allow the Australian Government to determine relevant standards — the Communications Services Standards (CSS) for communication services including

voice telephony. The standards would need to take into account voice quality, price, connectivity, and data collection.

The Australian Government would be required to develop, publish and implement a 'plan of measures' to ensure that all individuals and all small businesses can purchase services that meet the CSS on an equitable basis.

Poor understanding of the current arrangements is also understandable given the overlay of measures that have been introduced to ensure an adequate service of satisfactory standard is available to consumers. These 'overlay' measures include the CSG, the Priority Assistance Service and the NRF.

The development of the Communications Services Standards would lead to the abolishment of the 'overlay measures' and requirements such as Telstra's LPP, and the extended zone agreement.

However, the Committee notes that the NBN is a five year project and that many customers will continue to be served by existing networks during its construction. The CSS will also take several years to implement and the Committee has, therefore, made recommendations that deficiencies in the CSG framework be addressed.

The Committee notes that if the CSS is to be implemented, that improvements to infrastructure are likely to be necessary, particularly to support services to people in the extended zones. This issue is discussed further in Chapter 3.1 — A New Framework.

SUMMARY OF FINDINGS

Finding 2.3.1:

The current arrangements for the USO are not working well and a fresh approach is needed.

Finding 2.3.2:

The CSG arrangements are not providing sufficient incentive for carriers to improve service performance.

Finding 2.3.3:

There is insufficient data on the operation of Telstra's Local Presence Plan for the Committee to assess its effectiveness.

Finding 2.3.4:

There are concerns that the fault reporting data is not accurate.

Finding 2.3.5:

The Network Reliability Framework does not meet its current objectives in reducing the number of faults in the fixed-line network.

Finding 2.3.6:

Competition for fixed voice is less intense in regional Australia than in urban areas.

Finding 2.3.7:

The community continues to value a fixed voice connection for social inclusion, business and emergency situations.

Finding 2.3.8:

Current voice services are generally adequate in regional areas although there are still gaps. Australian Government intervention is likely to still be required to provide assurance of service availability.

Finding 2.3.9:

The standards for service repairs are not equitable between regional and urban areas and need to be improved for regional areas.

RECOMMENDATIONS

Recommendation 2.3.1:

The Australian Government should until the CSS is implemented:

- a. strengthen the CSG for repairs to fixed services in rural and remote areas including replacing 'working days' with calendar days in the CSG repair timeframes, and
- b. tighten the Mass Service Disruption (MSD) declaration criteria to ensure the exemption only applies when specified objective criteria such as are used for meteorological, insurance industry and emergency declaration standards are met.

Other relevant recommendations are:

- a. on improving universal service arrangements: Recommendation 3.1.1
- b. on improving understanding and awareness of regulatory arrangements for voice services: Recommendation 2.7.1, Recommendation 2.7.3

Endnotes

- 1 Ann Moyal, *Clear Across Australia: A history of telecommunications*, Nelson, 1984, Melbourne, pp.73, 83.
- 2 Australian Communications and Media Authority, *Communications Report 2006–07*, Melbourne, p.12.
- 3 Rhonda Griffin, Public Affairs Manager, Regulatory and Legal, Telstra, *Telstra on the tightest regulatory leash*, Opinion piece, viewed 25 June 2008, www.nowwearetalking.com.au/opinion/telstra-on-the-tightest-regulatory-leash
- 4 Meeting with the Australian Communications and Media Authority Chairman and members in Sydney on 9 May 2008.
- 5 Cloncurry public meeting, 8 April 2008; Richmond public meeting, 9 April 2008.
- 6 *Telecommunications (Consumer Protection and Service Standards) Act 1999* Section 8A.
- 7 Technically, there is provision for contestable Universal Service Obligation providers, but no provider came forward to contest in the trial areas.
- 8 *Telecommunications (Consumer Protection and Service Standards) Act 1999* Section 12C.
- 9 *Telecommunications (Consumer Protection and Service Standards) Act 1999* subdivisions B & C of division 5 or Part 2.
- 10 Senator the Hon Helen Coonan, Minister for Communications, *Information Technology and the Arts, Telco Red Tape Reduction*, media release, Canberra 27 June 2007.
- 11 Pastoralists' Association of West Darling, submission, p.2.
- 12 NSW Farmers Association, submission, p.7.
- 13 Whyalla public meeting, 12 March 2008; Cloncurry public meeting, 8 April 2008; Richmond public meeting, 9 April 2008; Townsville public meeting, 10 April 2008; Daly River public meeting, 16 April 2008; Kununurra public meeting, 16 April 2008; Narrabri public meeting, 5 May 2008; Broken Hill public meeting, 7 May 2008.
- 14 Submissions to the Minister's Universal Service Obligation review from Communications Alliance, Optus and ATUG.
- 15 Meeting with the Australian Communications and Media Authority Chairman and members on 9 May 2008.
- 16 Australian Communications and Media Authority, submission, p.3.
- 17 Australian Communications and Media Authority, submission, p.15.
- 18 A decision on the Universal Service Obligation (USO) tax is a separate decision from restructuring the USO arrangements. Options could include retaining the tax in some form, providing for its gradual removal over time, or immediately abolishing the tax.
- 19 Regional Telecommunications Inquiry Recommendation 2.4.
- 20 Telecommunications (Customer Service Guarantee) Standard 2000 (No. 2)
- 21 Australian Communications and Media Authority *Communications Report 2006–07*, Melbourne, p.115.
- 22 Cloncurry public meeting, 8 April 2008; Richmond public meeting 9 April 2008.
- 23 Communications, Electrical, Plumbing Union, submission, p.15.
- 24 See clause 22(1)(b) of the Telecommunications (Customer Service Guarantee) Standard 2000 (No. 2)
- 25 Australian Communications and Media Authority, submission dated 6 June 2008, Attachment A p.1.
- 26 Communications, Electrical and Plumbing Union, submission, p.15.
- 27 Australian Communications and Media Authority *Communications Report 2006–07*, Melbourne, p.17.
- 28 Australian Communications and Media Authority *Telecommunications Performance Bulletin 2005–07*, Melbourne, pp.23, 24.
- 29 Pastoralists' Association of West Darling, submission, p.3.
- 30 Regional Telecommunications Inquiry Recommendation 8.1.
- 31 Louise Draper, submission, p.1.
- 32 The Hon Bob Katter MP, submission, p.2.
- 33 Carrier Licence Conditions (Telstra Corporation Limited) Declaration 1997.
- 34 Carrier Licence Conditions (Telstra Corporation Limited) Declaration 1997.
- 35 Regional Telecommunications Inquiry Recommendation 2.10.

- 36 Australian Communications and Media Authority *Telecommunications Performance Bulletin 2005–2007*, p.2.
- 37 Kununurra public meeting, 16 April 2008, Narrabri public meeting, 5 May 2008.
- 38 Meeting with the Communications, Electrical, Plumbing Union in Sydney on 9 May 2008.
- 39 Australian Communications and Media Authority *Communications infrastructure and services availability in Australia 2006–07*, Melbourne, p.25.
- 40 Australian Communications and Media Authority *Communications infrastructure and services availability in Australia 2006–07*, Melbourne, p.25.
- 41 Australian Communications and Media Authority *Communications infrastructure and services availability in Australia 2006–07*, Melbourne, p.27.
- 42 Stephen & Donna Mahony, Dundee Downs, Northern Territory, submission, p.4.
- 43 Isolated Children’s Parents Association of Australia, submission, p.2.
- 44 Coopers Creek Catchment Committee, submission, p.4.
- 45 Gavin Priestley, submission, p.2.
- 46 Australian Communications and Media Authority *Communications Report 2006–07*, Melbourne, p.113.
- 47 Claire Baines, submission, p.2.
- 48 Louise Draper, submission, p.1.
- 49 Bob Lesley and Chris Colston, submission, p.1.
- 50 Carrier Licence Conditions (Telstra Corporation Limited) Declaration 1997.
- 51 Telstra ASX announcement, 15 November 2005.

CHAPTER 2.4 — PAYPHONES

INTRODUCTION

The Committee defines a payphone as a phone available in a public place with pay per call charges. This includes ‘community phones’ in Indigenous communities, but not emergency phones along highways.

The first coin-operated public payphone was introduced by the Postmaster-General’s Department in the 1920s. Independently-operated payphones began in 1963. These were supplied by Telstra only and mainly installed by businesses such as hotels and pubs. The total number of payphones in Australia grew until the 1990s when it began to fall again.

From 1997, open competition in the provision of payphones was permitted. Today, the provision of payphones is generally open to competition, although it is supplemented by the Universal Service Obligation (USO) and other Australian Government funded programs (such as community phones for Indigenous communities).

TYPES OF PAYPHONES

Telstra, TriTel and other operators supply payphones. Most Telstra payphones accept both coins and Telstra pre-paid phone cards. Some accept only cards or only coins. Short Message Service (SMS) text messages can be sent from some Telstra payphones. Telstra also has approximately 200 teletypewriter payphones around Australia providing telephone services to people with hearing or speech disabilities. All TriTel payphones accept coins and the standard TriTel payphone accepts credit cards and TriTel pre-paid phone cards.

Payphones are available in a variety of outdoor locations, including townships, residential streets and remote communities. They are also available in a range of indoor locations such as shopping centres, pubs, hotels and airports.

‘Community Phones’ are public phones provided to some remote Indigenous communities. They are designed to overcome extreme weather conditions and resist breakages, and operate as a prepaid option. Like other public phones, they can be used for calls to the 000 emergency number. These phones are discussed in Chapter 1.5 — Aboriginal and Torres Strait Islander People.

REGULATORY ARRANGEMENTS

The provision of payphone services in Australia is generally open to competition, although it is supplemented by the USO and other Australian Government funding programs.

Telstra is the only provider supplying USO payphones. Under the USO, Telstra must 'take all reasonable steps' to provide all Australians with 'reasonable access' to a payphone on an 'equitable' basis. This is a legislated requirement under section 9(1)(b) and 12C(1) of the *Telecommunications (Consumer Protection and Service Standards) Act 1999*. Section 12C of the Act provides for Telstra subject to ACMA approval and any Ministerial requirements to determine how it will fulfil this obligation in its Standard Marketing Plan (SMP).

Telstra's SMP provides a guide to where they may provide payphones. In the SMP, Telstra states that it will make 'all reasonable efforts' to provide a payphone service, but retains the right to make the final decision based on its analysis of relevant factors. The SMP also includes performance indicators such as timeframes for installation and repairs, and criteria for installing, removing and relocating a payphone.

Under the USO, Telstra receives payments from the Australian Government¹ to cover the operation of payphones in unprofitable locations. However, these unprofitable locations are not specifically defined in the USO.

Telstra states that approximately 7500 payphones are currently subsidised under the USO.² The USO payphone subsidy for 2007–08 was \$13.8 million.³ This amount of subsidy is determined by the Minister on the advice of ACMA and does not necessarily reflect the net marginal cost to Telstra of providing these phones.

Clause 16(1) of *Telstra Carrier Charges — Price Control Arrangements, Notification and Disallowance Determination No.1 of 2005* requires Telstra to charge no more than 50 cents for each untimed local call from a payphone. Other payphone providers are free to set their own price.

STATE OF THE MARKET

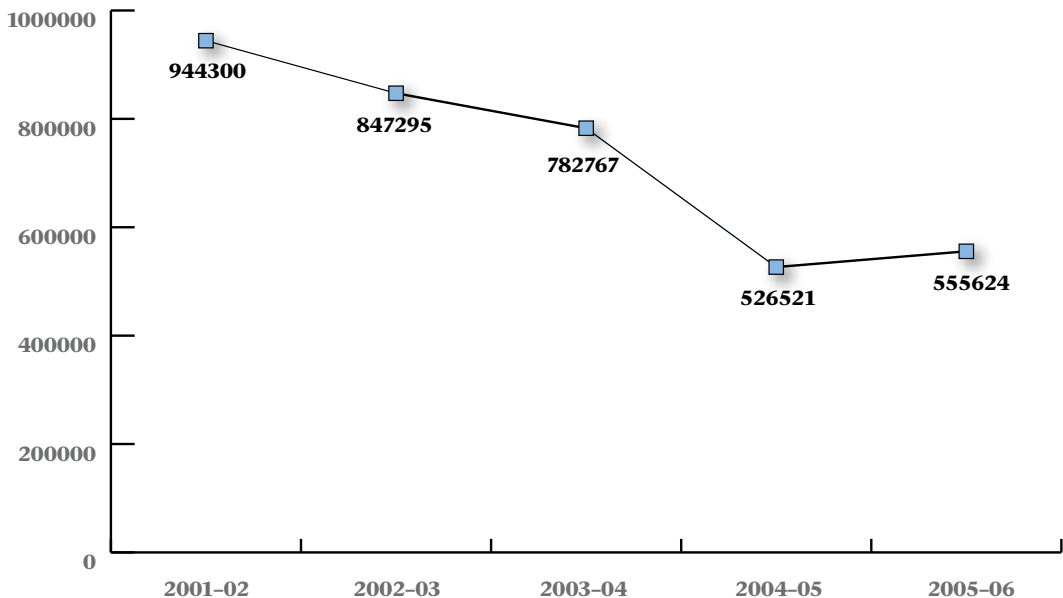
As of June 2007, there were 49 862 operating payphones in Australia.⁴ Fifty-one per cent of these were operated by Telstra, around two per cent were operated by TriTel, the remaining, including Blue and Gold phones, were operated by private businesses such as hotels, pubs and convenience stores.⁵ There were 236 community phones in remote Indigenous communities.

There has been a general decline in the use of payphones. ACMA figures show there were 272 million calls made from Telstra payphones in 2001–02, 254 million in 2002–03, 247 million in 2003–04 and 226 million in 2004–05.⁶

The number of emergency calls made from payphones has also declined.

The decline in use means operators' revenue from payphones is also decreasing. This reduces the profitability and commercial viability of payphones. Telstra is likely to suffer the most from this decline in revenues as, unlike other providers, it is unable to adjust its prices for untimed local calls.⁷

Table 2.4.1 Number of emergency calls made from payphones, 2001–02 to 2005–06

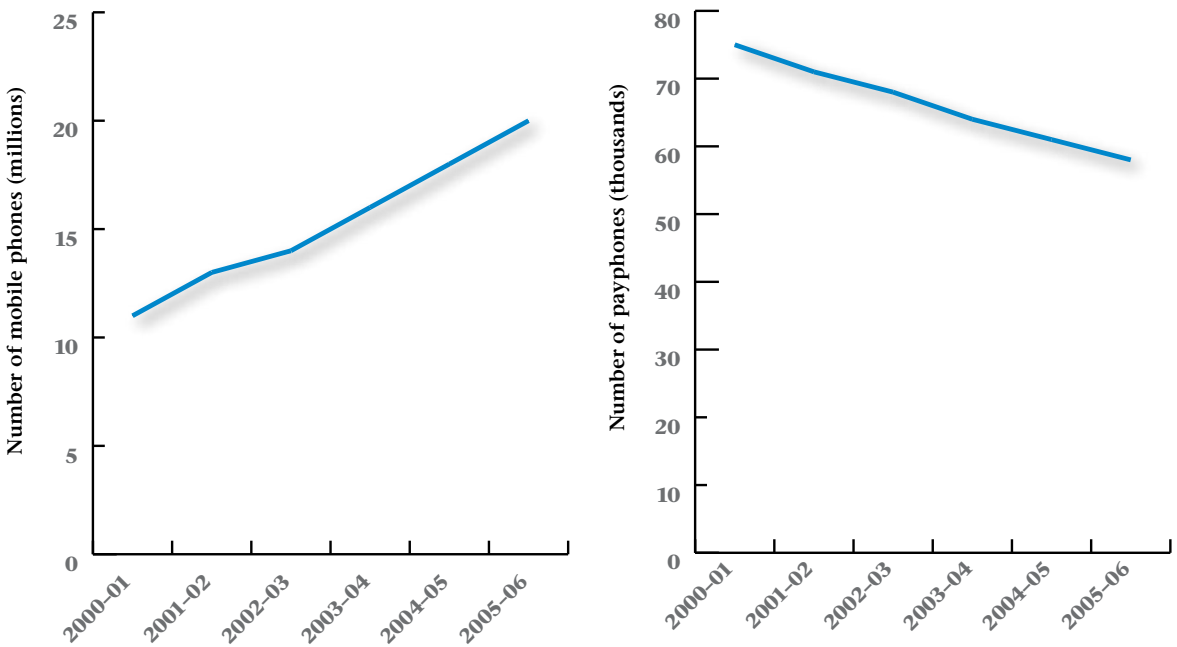


Source: Australian Communications and Media Authority (ACMA)

There are several reasons for the decline of payphone usage. The Australian Communications Authority (ACMA's predecessor), in its 2004 review of payphone policy, suggested the following likely reasons for the decline:

- increased mobile phone ownership, and
- greater access to fixed line services, especially products such as Telstra's *InContact* (a home phone service that only accepts incoming calls and limited outgoing calls) and other pre-paid home services.

Table 2.4.2 Respective numbers of mobile phones and payphones in Australia 2000–01 to 2005–06



Source: The USO Review Issues Paper (Department of Broadband, Communications and Digital Economy)

Finding 2.4.1:

Payphone use is declining. This is partly due to the increased take-up of mobile services.

Telstra's rationalisation program

In February 2006, Telstra announced a rationalisation program to remove up to 5000 payphones in the seven months from February to September 2006. ACMA reports show a decrease of 1232 payphones in 2005–06 and 4814 payphones in 2006–07.⁸

Of the 4814 payphones removed in 2006–07, at least 602 were removed from regional Australia. Telstra also cancelled the removal of 13 payphones in regional Australia after public consultation.⁹

Payphones that Telstra considered underused, highly vandalised or redundant in a location were given a high priority for removal. Telstra argued that many of these payphones were no longer commercially viable. Telstra's payphone revenues have been steadily declining from \$259 million in 1996 to \$92 million in 2007.¹⁰

The Committee considers that this approach is not always aligned with community perceptions of need for publicly available phones. The Australian Local Government Association notes that, *local communities across Australia feel aggrieved when payphones are removed from the local area.*¹¹

*...we have two public phones (the only communication available to the itinerant public) but Telstra are considering removing one of the phones because they believe that there is not enough business for two. These phones are always having malfunctions if there was one phone this would mean we would be left with no public communication while waiting for a technician to come from Charleville (452 kilometres away). Public access to communication is a health and safety issue.*¹²

*Telstra has advised the Chittering Shire Council of its desire to remove the public telephone facility from the Bindoon town site as it is their belief that there is sufficient mobile telephone coverage availability in the area. Given that this is the only public telephone within the Shire and is used by locals, travellers, and passing traffic for social and emergency calls, this community and its Council strongly requests that the public telephone remain in its current position for the foreseeable future.*¹³

Finding 2.4.2:

There is community concern in relation to payphone removal.

The Australian Government's response to Telstra's payphone rationalisation program

In 2006, the then Minister for Communications sought Telstra's agreement to a consultation process to minimise the negative impact of payphone removals.

This included:

- more active consultation with local communities, including posting notices indicating Telstra's plan to remove the facility and inviting comment on payphones that were scheduled to be withdrawn for at least three months prior to their removal, and
- Telstra providing a formal response to any letter or email complaint it received, with the response providing the grounds for the decision and advising that the ACMA could be contacted if the complainant wished to take the matter further.

SIGNIFICANCE OF PAYPHONES IN REGIONAL, RURAL AND REMOTE AUSTRALIA

Despite reduced usage, payphones remain important in regional Australia. A recurrent theme throughout this report is that access to adequate telecommunication services is essential for emergency services, transport, and social interaction in regional Australia. This is in addition to the widely accepted importance of telecommunications for commercial and industry competitiveness and functionality.

Submissions emphasised the need for payphones in regional areas, regardless of their economic viability, as they are sometimes the only available form of telecommunications:

We believe that there should be a serviced payphone in every small town in our catchment area. In the bigger regional centres there should be more than one pay phone available. We are aware that they can be unprofitable; however in the current circumstances where there is next to no mobile coverage, the payphone is all that is available. Even where there is mobile coverage, not everyone has one, hence even more reliance on the pay phones.¹⁴

Terrestrial mobile coverage in regional Australia is relatively low. Without a car kit or external antenna, terrestrial mobile coverage for all of Australia is less than 20 per cent (see Chapter 2.1 — Mobile Communication), and significantly less in regional Australia. Arguably payphone rationalisation affects urban areas much less, as those working

and living in these areas have greater access to alternative telecommunications such as mobiles, other payphones, or home or business phones.

In regional areas, the lower population density and greater distance to alternative sources of communication means that payphones assume greater significance. For examples:

The Princes Highway between Orbst and the NSW border including Cann River has the highest road accidents in the state due to terrain. These highways can be closed at any time due to fire, flood or road accident or trees falling across highways... At any given time, one phone is often out of service due to weather conditions, this leaves the two remaining, often unusable due to coin jams or 'use phone cards'. The few local businesses in Cann River are not open 24/7 to sell phone cards... Mobile access is very limited in Cann River and non existent along major parts of both highways...¹⁵

...in a life and death situation where it is imperative to get medical help after an accident or other emergency, telephone services are of the highest import.¹⁶

As further discussed in Chapter 1.1 — Social Inclusion, Chapter 1.3 — Health Care and Chapter 1.8 — Transport, the demographics of regional Australia is different to that of urban Australia. For example, the large itinerant community in regional, rural and remote Australia is more likely to use a payphone. The Committee heard in Narrabri that travelling retirees or 'grey nomads' make use of payphones to stay in touch or plan their activities as a cost-effective means of communication.¹⁷ The importance of payphones for travellers was reflected in a number of submissions. For examples:

...I am also a Chaplain to the seafarers that come here on the bulk ships to load bauxite...the majority of the people are from overseas and serve on their ships for long periods (up to a year away from home)... The turnaround time for ships in Weipa is generally...less than 24 hours. There are typically 22 men on each ship. There are now two berths operational at the Lorim Point Loading Terminal. Therefore it is usually the case nowadays, that when two foreign-manned ships are alongside, there are 44 men (at least) from the ships that need telephone services. A lot of these guys have cell phones, but being a CDMA area, their GSM network phones have no signal here... I see tired men queuing in the hot sun at Lorim Point Wharf terminal to use the one public phone box which has been provided for them and then returning to their ships disheartened at their inability to contact their loved ones because their time has run out and they must return to their shipboard duty.¹⁸

In a world of 'User Pays', let's define the real users of communications en route to their destinations. All traffic entering Victoria via the Eastern Gateway, must pass through Cann River. We are a community of 250 residents... It is necessary that the payphones remain for the safety and security of residents and the many international, state and national road users passing through our town.¹⁹

Payphones also remain important in Indigenous communities living in remote Australia, where a higher percentage of households do not have any phone services.²⁰ A recent qualitative study conducted by the Tangentyere Council Research Hub and Central Land Council, found that payphones and mobile phones were the most commonly used telephone services (see Chapter 1.5 — Aboriginal and Torres Strait Islander People).

Many indigenous people do not have access to mobile phones or even reliable fixed lines. They are a highly mobile group, and so often require phone access when not near their regular base. Travellers require payphones in the absence of the full mobile network coverage...²¹

Finding 2.4.3:

Payphones remain a valued service and are significant to communities in regional Australia.

ASSESSMENT OF ADEQUACY OF PAYPHONES IN REGIONAL, RURAL AND REMOTE AUSTRALIA

The Committee has found that the USO has been inadequate in guaranteeing 'reasonable access' to payphones. As currently drafted, the framework is flexible for Telstra, and only requires them to make 'all reasonable efforts' to provide 'reasonable access'. It gives Telstra the power and discretion in decision making. The current USO framework including Telstra's Standard Marketing Plan (SMP) provides insufficient assurance that non-commercially viable payphones will be protected. For example:

We have lost three phone boxes, two of which were at strategic locations. One was next to the caravan park and the other near two roads which carry tourists into Naracoorte and those wishing to divert to Penola. It is understood that mobile phones have become very popular but this does not mean there is no call for payphones. As was stressed at the Naracoorte meeting, telephone contact is most important in the case of emergency and therefore communities need some payphones at strategic points, even if they do not 'pay their way'...²²

Finding 2.4.4:

Payphones are generally adequate in regional areas although there are still gaps. Government intervention is still required to provide an assurance of payphone availability.

Despite the additional consultative measures introduced in 2006 for the rationalisation of payphones, submissions and participants of consultation meetings²³ continue to note that this process is inadequate:

... Council is of the view that the extent and level of public consultation employed by Telstra in determining payphone removal is grossly inadequate. Council contends that Telstra's review process does not provide sufficient consideration in respect of community needs to access public telephones...²⁴

Finding 2.4.4:

Consultation with communities in relation to the provision and removal of payphones requires improvement.

The maintenance and repair timeframes for payphones in regional Australia is found to be inadequate. In the Tasmanian and the Northern Territory meetings, participants noted that coin operated payphones in remote locations are often out of order and/or not emptied frequently enough.

Telstra, in its SMP indicates that it would use 'reasonable endeavours' to repair Telstra operated payphones or payphone access lines within the following timeframes:

- one full working day for urban areas
- two full working days for regional areas, and
- three full working days for remote areas.

The following table outlines Telstra's payphone performance, as recorded by ACMA in December 2006, March 2007 and September 2007. The data indicates that Telstra's payphone repair performance for remote areas is less than 70 per cent and in rural areas there has been a modest improvement.

**Table 2.4.3: Telstra's performance against fault repairs
March 2007–December 2007**

Percentage of faults cleared within:	March 2007	September 2007	December 2007
1 working day in urban areas	89%	92%	96%
2 working days in rural areas	84%	88%	89%
3 working days in remote areas	66%	71%	66%
Average trouble reports per payphone per month	0.5	0.4	0.4
Percentage of payphones available to make calls	99%	99%	99%

Source: ACMA Telecommunications Performance Data Report December 2007

Despite allowances that take remoteness into consideration (that is, one working day in urban areas and three working days for remote areas), payphones in more rural and remote areas experience greater down-time than their urban counterparts. The Committee finds this unsatisfactory and an indicator that payphone services are inadequate.

Finding 2.4.5:

Payphones in rural and remote Australia have greater 'down-time' than their urban counterparts.

DISCUSSION AND RECOMMENDATIONS

The usage and relative importance of payphones is declining while the net costs of operating them are increasing. However, for regional Australia, payphones continue to play an important safety and community role. A payphone is a resource that communities understand, are used to having available and provide a sense of security.

The Committee recognises the need for payphones remains, although their importance is gradually decreasing. Telstra's payphone rationalisation plan has caused community concerns. Ongoing government intervention of some form is needed to ensure adequate access to payphones into the future. As the Western Australian Government notes:

The issue of provision of public payphones requires extreme care in accepting their gradual disappearance. There will always be a base level of access required and particularly in times of emergency with other services (e.g. mobile phones) may not be available or usable.²⁵

The Committee recommends that payphones be part of the Communication Service Standard (CSS). Under the CSS, the Australian Government should specify a minimum number of payphones according to a set of objective criteria.

The Committee also considers that greater competition would improve the current delivery of payphone services. Almost 50 per cent of all payphones are operating in a competitive and commercial market. Under the existing arrangements, only Telstra can access a subsidy for providing payphones that operate at a loss.

The Australian Government should consider ways to foster a competitive payphone market throughout all of Australia, including for government subsidised phones. If the provision of payphones in regional areas requires subsidies from the Australian Government, all payphone providers should be able to bid for this funding.

The Committee also recommends that local councils play an increased role in providing payphone services in their jurisdictions. Local councils should help determine the locations of payphones. Additionally, they should be given the opportunity to contribute to and/or negotiate additional payphones where they will benefit the community.

The Committee considers that local councils could also play a more active role in the maintenance of payphones in their areas. If local communities were responsible for emptying coins from payphones, for example, future incidences of vandalism and the need to wait for a technician could be reduced, improving the availability of operational phones.

SUMMARY OF FINDINGS

Finding 2.4.1:

Payphone use is declining. This is partly due to the increased take-up of mobile services.

Finding 2.4.2:

There is community concern in relation to payphone removal.

Finding 2.4.3:

Payphones remain a valued service and are significant to communities in regional Australia.

Finding 2.4.4:

Consultation with communities in relation to the provision and removal of payphones requires improvement.

Finding 2.4.5:

Payphones in rural and remote Australia have greater 'down-time' than their urban counterparts.

RECOMMENDATIONS

Recommendation 2.4.1:

The Australian Government, in conjunction with the CSS implementation, consider a payphone subsidy program which allows all payphone providers to bid for funding on an open and transparent basis.

Recommendation 2.4.2:

The Australian Government encourage and enable local councils to play a stronger role with regard to the location and removal of payphones in their area.

Other relevant recommendations are:

- a. on retaining payphones in 'universal service' arrangements:
Recommendation 3.1.1 (a)
- b. on local government involvement and participation: Recommendation 1.6.1
- c. on public phones in remote Indigenous communities:
Recommendation 1.5.1

Endnotes

- 1 Under the Universal Service Obligation (USO) arrangements, a tax is levied on carriers to raise the Government revenue to fund the USO payments to Telstra.
- 2 Telstra, *Universal service: providing telecommunications services to Australia*, submission to the USO Review, November 2007.
- 3 The Australian Communication and Media Authority, *Funding of the USO and DDSO*, The Australian Communication and Media Authority, viewed 30 June 2008, www.acma.gov.au/WEB/STANDARD/pc=PC_2483#claim
- 4 *ACMA Communications report 2006–07*, Melbourne, 2008, p.104
- 5 *ACMA Communications report 2006–07*, Melbourne, 2008, p.104
- 6 The Australian Communication and Media Authority 2005, *Public Payphones*, The Australian Communication and Media Authority Melbourne, viewed 17 July 2008, www.acma.gov.au/webwr/_assets/main/lib100033/june05public%20payphonesrtf.rtf
- 7 Section 16(1) of *Telstra Carrier Charges — Price Control Arrangements, Notification and Disallowance Determination No.1 of 2005 (Amendment No.1 of 2006)*
- 8 *ACMA Performance Report 2005–06*, Melbourne, 2006, p.113 and *ACMA Performance Report 2006–07*, Melbourne, 2008, p.104
- 9 *ACMA Performance Report 2006–07*, Melbourne, 2008, p.107
- 10 Telstra 2007, *Telstra Corporation Limited and controlled entities Results and operations review Year ended 30 June 2007*, Telstra Melbourne, viewed 14 July 2008, www.telstra.com.au/abouttelstra/investor/docs/fy07_finhighlights.pdf and Telstra 1997, *Telstra Annual Report 1997*, Telstra Melbourne, viewed 14 July 2008, www.telstra.com.au/abouttelstra/investor/docs/fullrept.pdf
- 11 The Australian Local Government Association, submission, p.12.
- 12 Windorah Development Board, Queensland, submission, p.4.
- 13 Shire of Chittering, Western Australia, submission, p.5.
- 14 Julie Allen, submission, p.5.
- 15 Marion Marx, submission. p.2.
- 16 Health Consumers of Rural and Remote Australia, submission, p.1.
- 17 Narrabri public meeting, 5 May 2008.
- 18 David Elliott, submission, p.1.
- 19 Marion Marx, submission. p.1.
- 20 Telecommunications & Disability Consumer Representative, (TEDICORE), submission, p.19.
- 21 Health Consumers of Rural and Remote Australia, submission. p.5
- 22 Mayor Ken Grundy, submission, p.2.
- 23 Mayor Lyn Gunter, Shire of Murrindindi, Melbourne stakeholder meeting, 22 February 2008.
- 24 Latrobe City Council, submission. p.7.
- 25 Western Australian Government, submission, p.12.



Over Western Australia on the way to Balgo community meeting. 17 April 2008.

CHAPTER 2.5 — BACKHAUL

INTRODUCTION

The term ‘backhaul’ refers to telecommunications transmission facilities linking a point at, or near, the edge of a network to the rest of the network. This includes the transmission linking the telephone exchange or line concentrator in a town to the network, or connecting a wireless facility such as a mobile base station to a network.

Backhaul itself is not a service usually acquired by end-users. However, the availability of backhaul will impact on the type and price of services available.

The matter is not merely a theoretical one. In its consultations, the Committee heard from state governments, telecommunications providers and other industry representatives about issues related to backhaul. Some of these comments are included later in the chapter. The Committee was surprised by the strength and number of submissions that raised issues about backhaul and the difficulties or problems being faced by regional communities because of backhaul problems.

TECHNOLOGIES

In fairly recent times, when networks were primarily used for voice communications and transmission was analog, it was normal to measure the capacity of a transmission route by the number of circuits it could maintain. In this sense, a circuit was the equivalent of a copper pair.

The advent of digital technology has provided the capacity to better utilise the infrastructure of backhaul links by sharing ‘circuits’ and data, and through the use of sophisticated sharing techniques. Engineers use a body of knowledge called ‘traffic theory’ to dimension capacity on backhaul links. Where the networks are packet switched, the ratio of the total line speeds available to end users to the line speed of the backhaul transmission is referred to as the ‘contention ratio’.

As mentioned in Chapter 1.5 — Primary Industry and Commerce, many services in regional Australis, and in particular in the Extended Zones, rely on a single spur backhaul links that simply terminates at some point, that is, a ‘dead end’. This means that there is no possibility of maintaining a service if there is a break in connectivity of the backhaul link. However, if the backhaul link is connected to the main network at

both ends, a break in connectivity does not necessarily result in service disruption as the communications traffic can be routed from the other end.

In the Committee's view it is very important for existing 'dead-end' backhaul links to be upgraded to provide an adequate level of redundancy and reliability for the telecommunications services provided to the most remote parts of Australia, that is, the Extended Zones. This will be very important for assuring service availability under the Communications Service Standard (CSS) proposed in Chapter 3.1 — A New Framework. Recommendation 3.1.7 in Chapter 3.1 — A New Framework sets out a process for how this should be accomplished.

There are three main technologies that can be used to provide backhaul: fibre, radio, and satellite. Details on how much of each type of backhaul is currently available, is not publicly available.

Fibre

Fibre has been deployed in the Australian telecommunications network. A full link requires a pair of fibres. In telecommunications, single mode fibre is used with multiple frequencies and typically provides about 10Gbps of capacity. More recently, fibres have been designed to support multiple modes supporting multiple channels of 10Gbps per fibre pair.

The state of the fibre networks was reported in the ACCC's report, *Telecommunications Infrastructure in Australia*.¹

The Committee considers that optical fibre links are the preferred technology for backhaul. This is because the technology provides robust and scalable backhaul links.

Radio

The Australian rural landscape features microwave dishes on towers on hilltops or above other telecommunications facilities (exchanges or fibre links). These facilities provide mainly fixed-link and some mobile radio transmission links. Some of these are quite old analogue era links. More modern radio links will provide 100Mbps or more, sometimes including multiple links between a set of transmitters and receivers.

Satellite

Satellite can be used to provide backhaul. This is usually only cost effective where the cost of alternative technologies is high and capacity use low — as is common in remote areas.

REGULATORY ARRANGEMENTS AND GOVERNMENT INVOLVEMENT

The provision of backhaul has been mostly market led. However, there are (or have been) a number of specific regulatory arrangements in place.

The ACCC declared the service provided over ‘backhaul’ as the Domestic Transmission Capacity Service (see Appendix F for a description of access regulation). This declaration means that operators of transmission (mainly Telstra) have a ‘standard access obligation’ to provide the declared service to other operators who request the service. If the access provider and access seeker cannot agree to the terms and conditions of access, either may apply to have the ACCC arbitrate and determine the terms and conditions of access.

The ACCC has exempted from the declaration a number of backhaul routes which it has found to be sufficiently competitive because of the presence of multiple competing infrastructure-based backhaul providers on those routes. They are:

- routes between the mainland capital cities, and
- 14 specified routes between a capital city and a regional centre (where there are a minimum of three competing backhaul providers servicing that route).

A number of utilities such as railways and electricity transmission companies have constructed their own transmission facilities. Where the principal use of these facilities is the supply of communications to the authority, the authority can supply services to others over those facilities without needing a carrier licence. Some transmission facilities have been used by telecommunications carriers using these provisions.

In December 2007, the ACCC issued the *Audit of Telecommunications Infrastructure Assets — Record Keeping Rules 2007*. This instrument required 22 named providers to record their core network transmission assets as at 31 January 2008, and to provide a report of that information to the ACCC as at 1 March 2008. The ACCC has not made the information gathered public.

STATE OF THE MARKET

There is currently no single reliable source for information on the state of the backhaul market. This was, in part, addressed in both the National Bandwidth Inquiry in 2000 and the ACCC’s Telecommunication Infrastructures in Australia 2001. The ACCC also examined the state of competition in the market during its inquiry into declaring

backhaul in 2003 and early 2004. The ACCC's Telecommunications Infrastructure in Australia 2001 report noted that there are from four to eight providers of transmission facilities between the various mainland capitals. Many regional towns can access this capacity, however most cannot.

As a matter of history, Telstra has at some point installed backhaul capability to every exchange in the country, and every mobile base station has a backhaul connection. Generally, terrestrial backhaul capacity in regional Australia is owned and operated by Telstra, Optus, NextGen and Soul.

The Western Australia Government provided the Committee with a summary of the supply of backhaul in that state:

Within the CBD, a number of companies offer fibre backhaul capacity and competition is significant. Some companies — Silk (formerly Bright Telecommunications), Amcom and Telstra — have fibre rings or tails into key urban areas and thus competition exists in these areas. Outer metropolitan areas are serviced by Telstra or by other companies using a microwave backhaul as they are unable to access affordable fibre backhaul.

There are five interstate fibre cables: three owned by Telstra, one by Optus and the fifth by NextGen. The Optus cable comes in via Norseman and then loops through the South West (close to Katanning and Bunbury). It does not, however, have any breakouts (access points) apart from the termination point in Perth. The NextGen fibre follows the railway through Kalgoorlie to Perth, with a single breakout point in Kalgoorlie. Consequently, the only fibre backhaul that is currently available outside the metropolitan area, apart from access to the NextGen fibre in Kalgoorlie, is Telstra's.²

As noted above, the transmission service is a declared service under the access regime. However, the regime has not resulted in any arbitration determinations about access.

The ACCC is not currently arbitrating any access disputes about the supply of the Domestic Transmission Capacity Service. Since its declaration, there have been five access disputes lodged in relation to transmission:

- by Primus and AAPT in 1999
- by Chime in 2005, and
- by Netspace and Macquarie in 2007.

All have been withdrawn prior to the ACCC making a determination.

In December 2006, the ACCC engaged Gibson-Quai AAS to develop a model to estimate the cost of providing transmission capacity services. The cost model will inform the ACCC's estimation of the cost of providing transmission capacity services between various capital-to-regional locations in Australia. The model will also provide for the estimation of transmission costs between Melbourne and Hobart.

On 16 April 2008, the ACCC publicly released the final version of the telecommunications transmission cost model. The ACCC is now seeking input from users of the model about parameters for the model routes that are of interest to them as well as suggestions, revisions and feedback on the model.

The ACCC has started developing indicative prices for transmission routes. These prices will be informed by the telecommunications transmission cost model and information obtained from the infrastructure Record Keeping Rule.³

SIGNIFICANCE OF BACKHAUL

For end-users to be able to access higher bandwidth services delivered over terrestrial access services (wired or wireless) to regional areas, higher capacity backhaul than is currently available will be needed. As the CSIRO noted:

*The current transport networks for backhaul which connect the base stations and access gateways do not have the bandwidth to support hundreds of megabits/s wireless access technologies. Fibre is the best solution but may not always be feasible.*⁴

The Committee also heard that in a number of circumstances providers have been willing to service the local access needs of a community but have not been able to do so because of issues relating to backhaul.

In Tasmania, industry participants raised issues of the need for competitive access to Telstra infrastructure.⁵ Similarly, Neighbourhood Cable stated that the absence of competitively priced backhaul was an impediment to broadband service extension outside of Mildura.⁶

The Eyre Regional Development Board noted that because the Australian Broadband Guarantee is structured around a user subsidy it did not provide the ability for an ISP to build backbone infrastructure.⁷ The Committee notes that ABG providers are able to use incentive payments to offset investment in backhaul infrastructure.

Elders noted in its submission noted:

Whilst there have been improvement in broadband services in regional Australia over recent years there remain many locations where services are either inadequate or not available at all. Small providers have deployed networks but the high cost of backhaul has compromised services to end users (primarily through reduced speeds).⁸

State government submissions also addressed the issue.

Last mile providers (companies providing broadband services to businesses and households) advise that access to cost effective backhaul will enable them to provide better quality and higher speed broadband services over larger areas of the state... Examples given by last mile providers of the impact of this backhaul bottleneck are:

- *inability to provide fibre-to-the-home in new subdivisions in Albany*
- *inability to provide services in the North West*
- *cheaper to install their own microwave link to Bunbury than pay for backhaul, and*
- *inability to provide ADSL 2+ services outside the metropolitan area.⁹*

The major issues in Tasmania are the availability of broadband and mobile services and the cost of backhaul services...a key issue for Tasmanians, particularly business and corporate users, Internet access centres etc., remains the inflated cost of Internet download caused by Telstra's monopoly on the Melbourne to Tasmania link.¹⁰

Finding 2.5.1:

Backhaul is significant to people in regional parts of Australia in that backhaul is necessary to support equitable access to other important significant telecommunication services used by people in regional parts of Australia.

ADEQUACY OF BACKHAUL

The comments about the significance and availability of competitively priced backhaul do not establish the precise nature of the problem. The Committee was presented with two key causes for the perceived lack of backhaul ‘availability’:

- the lack of sufficient capacity, and
- the availability of capacity but not at a price that is comparable to other markets.

The most obvious cause arises where there is no existing transmission link to the location. A special case of this occurs where a large bandwidth transmission facility passes through a location but there is no provision for interconnection. A related case occurs where existing transmission has insufficient capacity for the application planned. In these cases, further infrastructure investment would be required to expand or replace the existing facilities.

The Committee concludes, given that the ACCC has exempted routes between the mainland capital cities and specified routes between capital cities and regional centres, that backhaul is competitively available to support services being provided in urban areas.

The Australian Government does not have information on where or how much backhaul transmission is available. The ACCC issued a Record Keeping Rule in December 2007 to obtain this information. This data is not publicly available and has not been available to the Committee. One commercial firm that attempts to track the location of all backhaul infrastructure advised the Committee that its studies indicate there is more backhaul in place than currently acknowledged.¹¹ However, the physical existence of the infrastructure does not ensure access.

The second cause occurs where there is sufficient capacity, but the price that is asked by the owner is too high for the commercial requirements of the proposed business. A related case occurs where an upgrade would be required to the existing infrastructure, but the owner, after upgrade, would be seeking a price that is too high.

Complaints about the absence of affordable backhaul also raised the issue of ‘equitable’ backhaul — that is, where the backhaul from a remote town to a gateway in the state capital costs more than backhaul from an urban location. However, as has been discussed, there are varying input costs in both the fixed and mobile sectors that are not reflected in differential retail prices.

A decision to intervene in the market directly to provide ‘comparable priced’ backhaul would be a deviation from current policy approaches that emphasise making subsidies at the retail consumption level. However, the Committee did hear from industry participants about the merits of government investment in additional backhaul. For example, Optus in its submissions to the Committee identified:

...competitive access to backhaul would significantly improve regional and rural access to broadband services.¹²

Similarly, the Committee heard from some communities about the desirability of government programs to provide additional backhaul. The Stonehenge Action Group noted:

Unfortunately, because of our remoteness the cost of providing an optic fibre network to service Stonehenge and then continue on to Jundah, Windorah, Bedourie and Birdsville is extremely expensive and hence external government funding would be required. As data delivery speeds increase with time, we need scalable infrastructure to stay in touch.¹³

In a similar vein The Eyre Regional Development Board sought a new program whereby:

...funding is able to be allocated towards building regional infrastructure to underpin a new alternative broadband communications network in regions.¹⁴

The Tasmanian Government specifically proposed that the Australian Government provide funding of over \$20 million to subsidise the construction of another backhaul link across Bass Strait that would provide competitive pressure on prices.¹⁵ In their view, backhaul to Tasmania was severely inadequate because of pricing of access to existing backhaul.

The Committee acknowledges that there might be significant benefits to regional and remote communities in increasing the capacity and reducing the price of backhaul. But the Committee would suggest that this needs to be approached cautiously by governments.

First, as noted above, the problem may not be that there is a capacity constraint, but rather an issue of excessive pricing by a provider without competitive pressure. The building of duplicate infrastructure in such a case would be an inefficient allocation of resources, although it may provide substantial benefits to businesses, households and other users if prices fell. The problem in this case may be a failure of the access regime and the declaration of services by the ACCC.

Secondly, the Committee would also caution against the Australian Government choosing a particular technology as the solution where there is a real capacity constraint. This may result in a less efficient result and preclude, or delay, the roll-out or upgrade of existing backhaul links with more cost-effective technologies. For example, it may be more cost effective to install digital microwave links on existing towers than to provide long lengths of fibre to some remote settlements.

Finding 2.5.2:

Opportunities to improve services in regional areas are impeded by the lack of available backhaul at appropriate prices to enable competitive retail services.

Finding 2.5.3:

The Government does not have information on where or how much backhaul transmission is available. The ACCC issued a Record Keeping Rule in December 2007 to obtain this information. This data is not publicly available and has not been available to the Committee.

Finding 2.5.4:

The Committee found backhaul inadequate in regional Australia.

DISCUSSION AND RECOMMENDATIONS

In many of the locations where transmission availability is a problem, there are various government users across all levels of government and functional responsibilities. These agencies include those who have been concerned about the lack of suitable backhaul.

The Committee notes that it is common for calls about coordination between levels of government to be made in reviews of telecommunications. For example, this was part of Recommendation 19 of the National Bandwidth Inquiry.¹⁶

The Committee expects that the Australian Government's NBN project will result in significant upgrades to backhaul networks in regional Australia. However, as far as the Committee is aware, the open access arrangements for the NBN only relate to end services and do not necessarily cover access to any new backhaul infrastructure.

A number of the submissions on the NBN regulatory arrangements identified the benefits of ensuring access to any enhanced backhaul built as part of the NBN. The Queensland Government submission was typical of submissions from governments, saying:

...regulatory measures should be instituted which result in all backbone network facilities and services provided by the successful NBN providers(s) being delivered under an open access regime.¹⁷

Vodafone noted how this could facilitate the deployment of mobile networks;

...the government should seek to create the greatest possible economic value for the network by ensuring it can be fully utilised to deliver services to consumers by providing for open and non-discriminatory access on price and non-price terms [and] promoting competition by requiring that any NBN operator configure its network and access arrangements to facilitate next generation mobile network infrastructure deployment and other competing infrastructure, services and applications.¹⁸

Where the NBN project improves existing backhaul capacity, it will result in a decline in the relative cost of further extending backhaul from the NBN. The extent to which the NBN backhaul can be used in this way will depend on the creation of an adequate access regime.

The greater reliance by communities on their terrestrial communication services, which are all provided over the same backhaul transmission links, means that greater priority needs to be given to infrastructure that will provide diverse backhaul routes for communities in remote areas.

The Western Australian Government recommended that the Australian Government fund a comprehensive 'needs assessment' across Australia to identify specific areas of unmet need.¹⁹ The intent of the assessment would be, in part, to identify areas of need for additional backhaul investment. The Committee also notes that in the *Broadband Blueprint*, there was a commitment that:

...for the benefit of all providers, the Australian Government will continue to work with industry to develop an interactive map of backhaul supply.²⁰

As already noted, the Committee could not obtain details of backhaul supply across the country.

Chapter 3.1 — A New Framework, discusses how the Australian Government can, if necessary, stimulate investment in infrastructure such as backhaul in preparation for the introduction of new framework proposed in that chapter, and through initiatives

such as the NBN and other measures for people not served by the NBN. The Committee considers in developing policies and programs to address these issues, the Government should follow the proposed arrangements set out in Chapter 3.1 — A New Framework, and if the Government is to prioritise investments, to follow the criteria in Table 3.1.1.

However, providing backhaul without anything further does not guarantee improved delivery of services to consumers and small businesses. For example, the Committee heard from the Tasmanian Government that backhaul capacity across Bass Strait is adequate, but the price to access this backhaul is a problem.²¹ This means that to address the problems with backhaul in regional Australia the Australian Government will need to carefully consider regulatory and competitive market structure arrangements for the industry. As noted above the extent to which NBN backhaul may provide benefits will depend on the access arrangements applying to it, and industry structural arrangements. This issue is discussed further in Chapter 2.6 — Competition.

Finding 2.5.5:

Australian Government, and state, territory and local governments are significant purchasers of services and can influence the building of new or enhanced backhaul infrastructure.

Finding 2.5.6:

Local communities should benefit from the co-ordination of purchases by all levels of government where there is new or expanded roll-out of backhaul infrastructure.

Finding 2.5.7:

The Australian Government's NBN project will lead to investment in new backhaul transmission.

Finding 2.5.8:

The extension of backhaul in conjunction with the NBN should make further investment in backhaul beyond the NBN viable as a commercial proposition or from additional government programs.

Finding 2.5.9:

The telecommunications access regime and current market structure may be contributing to backhaul inadequacy for regional Australia.

SUMMARY OF FINDINGS

Finding 2.5.1:

Backhaul is significant to people in regional parts of Australia in that backhaul is necessary to support equitable access to other important significant telecommunication services used by people in regional parts of Australia.

Finding 2.5.2:

Opportunities to improve services in regional areas are impeded by the lack of available backhaul at appropriate prices to enable competitive retail services.

Finding 2.5.3:

The Government does not have information on where or how much backhaul transmission is available. The ACCC issued a Record Keeping Rule in December 2007 to obtain this information. This data is not publicly available and has not been available to the Committee.

Finding 2.5.4:

The Committee found backhaul inadequate in regional Australia.

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The Australian Government's NBN project will lead to investment in new backhaul transmission.

Finding 2.5.8:

The extension of backhaul in conjunction with the NBN should make further investment in backhaul beyond the NBN viable as a commercial proposition or from additional government programs.

Finding 2.5.9:

The telecommunications access regime and current market structure may be contributing to backhaul inadequacy for regional Australia.

RECOMMENDATIONS

Recommendation 2.5.1:

The Australian Government should ensure effective open access arrangements to backhaul services, including to backhaul services rolled out as part of Government funding programs.

Recommendation 2.5.2:

In ensuring open access to backhaul services funded through Government programs, the Australian Government require the provision of undertakings on the terms and conditions for third party access to backhaul, rather than solely relying upon commercial negotiation and dispute resolution.

Recommendation 2.5.3:

The Australian Government:

- a. regularly collect and prepare records of backhaul infrastructure for use by other Australian Government agencies for public policy purposes, and
- b. assess the costs and benefits of making this information available to relevant market participants.

Recommendation 2.5.4:

The Australian Government explore with state, territory and local government opportunities for greater co-ordination of their telecommunications purchases in regional locations that result in additional backhaul infrastructure to regional communities.

Recommendation 2.5.5:

The Australian Government work with state, territory and local governments and commercial entities to facilitate access to backhaul transmission not currently utilised, for the benefit of local communities.

Recommendation 2.5.6:

In accordance with the arrangements proposed in Chapter 3.1, the Australian Government identify locations without sufficient backhaul infrastructure to meet the needs of communities. Following the principles proposed by the Committee in Chapter 3.1 the Australian Government where necessary develop suitable policies or programs to facilitate investment in new or enhanced open access backhaul infrastructure.

Other relevant recommendations are:

- a. on infrastructure improvements: Recommendation 3.1.7
- b. on competition to improve access to backhaul: Recommendation 2.6.3

Endnotes

- 1 Australian Competition and Consumer Commission, *Telecommunications Infrastructure in Australia*, Canberra, 2001, pp.81–85.
- 2 Western Australian Government, submission, pp.6–7.
- 3 Advice from the Australian Competition and Consumer Commission.
- 4 CSIRO, submission, p.10.
- 5 Richard Loone from Tasmanian Alkaloids, committee consultation meeting, Launceston, 19 February 2008.
- 6 Mildura public meeting, 13 March 2008.
- 7 Whyalla public meeting, 12 March 2008.
- 8 Elders Telecommunications, submission, p.16.
- 9 Western Australian Government, submission, pp.6–7.
- 10 Tasmanian Government, submission, p.2.
- 11 R.Chirgwin, Market Clarity, Sydney consultation meeting, 9 May 2008.
- 12 Optus, submission, p.5.
- 13 Stonehenge Action Group, submission, pp.2–3.
- 14 Eyre Regional Development Board, submission, p.6.
- 15 Meeting with the Tasmanian Treasurer in Brisbane, 23 July 2008.
- 16 Australian Information Economy Advisory Council *National Bandwidth Inquiry* Department of Communications, Information Technology and the Arts, Canberra, 1999, p.xxiii.
- 17 Queensland Government, National Broadband Network regulatory submission, p.4.
- 18 Vodafone, National Broadband Network regulatory submission, p.3.
- 19 Western Australian Government, submission, pp.12–13.
- 20 Department of Communications, Information Technology and the Arts, *Broadband blueprint*, Canberra, 2006, p.81.
- 21 Meeting with the Tasmanian Government in Hobart on 20 February 2008.

CHAPTER 2.6 — COMPETITION

BENEFITS AND CONSEQUENCES OF COMPETITION

The promotion of competition is one of the prominent objectives of telecommunications policy in Australia.¹

Information and communications Ministers of OECD countries recently stated their *common desire to promote the internet economy and stimulate sustainable economic growth and prosperity by means of policy and regulatory environments that support innovation, investment, and competition in the information and communications technology sector.*²

The expected benefits of competition are that:

- prices for services should be lower than they would be without competition
- there should be greater innovation in services, and
- suppliers should be more responsive to customer needs.

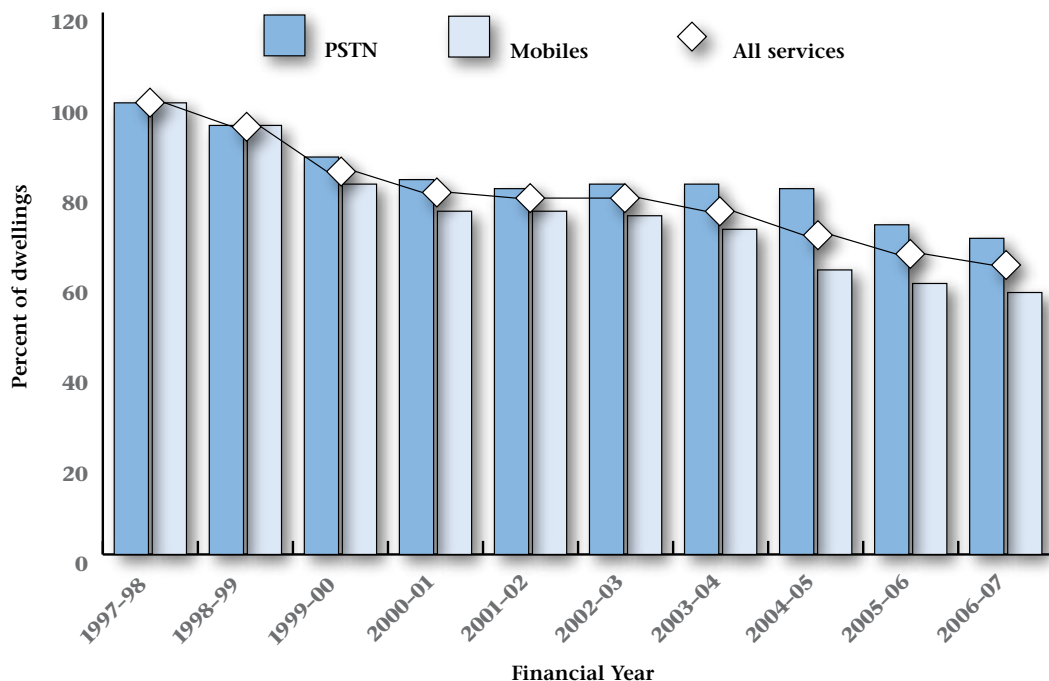
These benefits should lead to greater productivity in the economy and greater social inclusion.

These expectations have been largely fulfilled. The ACCC reports that there has been a significant reduction in prices for telecommunications services since 1997.³ This is shown graphically in Figure 2.6.1 overleaf.

While the ACCC report does not include a break-up of price by geographic region the prices used are averaged over a number of providers and their customers all over Australia. The price declines are likely to be a combination of:

- the effects of technological improvements (for example, the decreasing costs of microprocessors and optical fibre)
- realising the benefits of scale, and
- the benefits of competition.

Figure 2.6.1: Telecommunications services index by PSTN and mobile telephony services, 1997–98 to 2006–07



Source: ACCC Competitive safeguards 2006–07.

Competition itself should have reduced any excessive returns to providers and in its own right encouraged the adoption of more efficient technology.

Competition has a positive effect on innovation in telecommunications services. This is demonstrated by the number of innovations that have hit the Australian market in recent years, including innovations such as 3G mobile services and ADSL2+ broadband. Both of these innovations were initially introduced into urban areas through the pressures of competition on the incumbent. The availability of these services has since been extended to regional areas, and for ADSL2+ broadband, to regional centres. While in some regional areas and centres there is currently only one provider available, other providers have recognised the market and are building infrastructure to provide these innovative services.

The final expected benefit of competition is that it will reduce the need for regulation, either because defective products or poor customer service will not gain market share, or the freedom of providers to respond to consumer preferences will see supply meet demand.

How far the development of competition needs to be promoted remains a fundamental dilemma in telecommunications policy. Competition as a policy objective is merely the means to the benefits of competition — that is, cost reflective (and hence lower) prices, greater innovation and better customer responsiveness.

However, services like telecommunications have high fixed upfront costs and the promotion of competition can be at the expense of efficiency. Inefficient duplication of infrastructure can potentially result in higher costs to the community and higher prices for end-users than would occur with a single monopoly provider. This issue is likely to be more significant in areas with lower population density and is a significant issue for regional Australia.

STATE OF COMPETITION IN REGIONAL AUSTRALIA

While many regional areas do not yet have competitive supply for the 3G and ADSL2+ services referred to above, the innovation that was initiated by entrants in urban markets has benefited consumers in the regions. Telstra responded in both 3G services and ADSL2+ and has expanded the coverage area beyond the urban markets.

In most urban areas, end-users have four terrestrial mobile network operators providing coverage at their home or workplace. In regional areas, there are at most three and sometimes only one (if at all). In many urban areas end-users have multiple providers of broadband, including ADSL2+, wireless and (in some cases) cable delivery.

The experience in simple voice telephony has been similar. Competitive effects have been felt in urban and regional areas. The regulatory reforms of the 1990s created concerns that long distance tariffs would change with lower prices on the high traffic routes between the capital cities and higher prices for the lower traffic routes in regional areas.

There are distinct differences in transmission costs on these routes. The Sydney-to-Melbourne route, for example, has sufficient traffic to warrant installing multiple cables in the one engineering project, whereas a link to a regional centre may not. Also carriage service providers pay Telstra different wholesale prices to originate or terminate calls in Telstra's networks, depending on whether the calls originate or terminate in urban or regional areas. There are four different area based prices — CBD, metropolitan, provincial and rural:

Table 2.6.1 Disaggregated model access prices for PSTN Originating/Terminating services in 2005–06⁴

Region	Flagfall	End Minutes of	
		Use charge	Headline rate
CBD	0.85	0.35	0.57
Metropolitan	0.84	0.49	0.70
Provincial	0.94	0.68	0.91
Rural	2.06	3.66	4.18
Average	0.95	0.76	1.00

Despite these differences, the market experience in long distance prices has seen a move away from distance-based charging to single nationwide long distance prices. This appears to have been a product of competition, as different providers sought to differentiate themselves by not only having lower prices for various distances, but also by having larger areas addressed within each price band. This led to the elimination of distance-based charging.

In addition, these calls have been variously included in ‘bucket’ or ‘capped’⁵ plans, both of which benefit those consumers or businesses that make more of these time-based calls. These changes result in the greatest benefits from competition flowing to those who make the most long distance calls.

The competition in the long distance voice market for consumers between Telstra and Optus did not grow immediately after market deregulation. The disadvantage of receiving two bills, one for local service and one for pre-selection was a major disincentive for residential consumers to change providers. This was one factor that motivated the ACCC’s 1999 decision to declare the Local Carriage Service (since extended to include the Wholesale Line Rental service).

As a result of these declarations, Telstra’s wholesale customers must be provided with infrastructure access and the ACCC can arbitrate disputes between Telstra and its customers over the terms and conditions of access. This is the mechanism by which fixed voice resale occurs.

A number of providers continue to offer a package of resold local service with competitively supplied pre-selected long distance on a national basis. These providers offer their service to anyone able to acquire a Telstra fixed line.

The ACCC has granted an exemption from the declaration of these resale voice services in large areas of the urban markets.⁶ This means that Telstra's wholesale customers will no longer be able to have the terms of access determined by the ACCC. This decision reflects the extent of infrastructure based competition in those markets. However, it may result in providers reconsidering the viability of offering their resale/pre-selection service in regional markets only.

Finding 2.6.1:

End users in regional areas have benefited from competition where it has occurred.

Finding 2.6.2:

Currently, competition in communications services markets is not as intense in most regional areas as in urban areas.

Finding 2.6.3:

Competition and innovation in urban markets can result in benefits for regional markets. Consequently, regulatory decisions about urban markets can have significant implications for regional markets.

CHOICE IS AN ELEMENT OF EQUITABLE ACCESS

The different levels of competitive intensity between urban and regional areas are relevant in considering the adequacy of services in regional areas.

The likely consequence of this lower level of competitive intensity is that there may not be the delivery of innovative services, or that price competition may not be as vigorous in regional areas. While these aspects alone suggest a potential lack of equitable access to services, the Committee believes that the ability to have choice itself can often be an important element in determining whether services are provided on an equitable basis.

The choice offered through resale competition can be effective in meeting the requirement for a comparable choice between urban and regional areas. The facilities based competition that only uses Telstra's copper line from the exchange to the customer's premises is still competition over the same copper lines, and the competition that will be available through the NBN will be from open access to the same infrastructure.

The Committee has concluded that continuing to deliver competitive choice to consumers in all areas of Australia remains an appropriate policy focus. The Committee acknowledges that, in some circumstances, there is merit in encouraging the construction of additional infrastructure to support choice and competition. However, there will remain circumstances where common use of infrastructure will be the most appropriate way to deliver competitive services.

The Committee heard concerns that government resources should not be committed to providing 'competitive' infrastructure while there are areas of regional Australia without sufficient infrastructure.⁷ It also heard support for government programs supporting the installation of additional infrastructure.⁸

Finding 2.6.4:

Choice in the availability of retail services and providers can contribute to equitable service delivery for consumers in regional areas.

SPECTRUM AVAILABILITY

The Committee heard that a number of opportunities to provide services in regional areas were impeded due to the inability to access appropriate radio-communications spectrum.⁹ These covered cases where appropriate technology for the deployment of local solutions was available to operate in a cost-effective manner and in frequencies that had been purchased as spectrum licenses but were unused.

The spectrum marketing plans typically divide Australia into a number of areas, with different lots covering urban and regional Australia. This means that it is possible to apply different rules to spectrum marketed in regional areas.

To ensure that spectrum allocated in this way does not become an impediment to development, the Australian Government could modify its spectrum licensing in at least two alternative ways. The first would be to build into the licenses an obligation that they be put into commercial use within a specified time period, or be surrendered — a 'use it or lose it' provision. The second would be to extend the facility access regime in the *Telecommunications Act 1997* to include the use of spectrum.

Either of these options would be seen by prospective purchasers as restricting the licenses and result in lower prices being paid. However, the object of spectrum auctioning is efficient use of spectrum not revenue raising.

Finding 2.6.5:

Spectrum is being under utilised in regional areas for the provision of telecommunications services. Access to already allocated spectrum could improve communications service availability.

Finding 2.6.6:

The Australian Government could add 'use it or lose it' provisions in future spectrum licences. Alternatively, the Government could include radio-communications spectrum in access legislation.

INDUSTRY STRUCTURE

Facilities based competition and resale competition

Competition, as experienced by end-users in telecommunications, is often described as occurring in one of two ways:

- resale competition — where the competing service providers use common infrastructure combined with their own customer service and perhaps value adding features, and
- facilities based competition — where competing providers have fully invested in their own infrastructure.

Despite the common usage of these two terms, there really is no clear dividing line between them. Exactly how much network investment constitutes a 'facility' is open to debate. For example, the competition in broadband using the 'unbundled local loop' is often called facilities competition, but is still ultimately reliant on Telstra facilities (the copper pairs).

Additionally, because of the any-to-any connectivity requirements, at some point any communication is likely to traverse another provider's infrastructure. That is, so-called 'facilities based' competition will still require communications to traverse multiple providers' infrastructure.

The Committee did not form a view on the desirability of one form of competition over the other. However, the Committee did note that regulatory frameworks are required to deliver resale or service based competition where the economics of supply dictate that it is more efficient for there to be one piece of infrastructure rather than two.

Separation of network and retail operations

The Committee heard from some people that the separation of network ownership from the provision of retail services might facilitate the provision of retail services competition in parts of regional Australia. One submission summarised:

There cannot be equitable access to the infrastructure, as there is for roads, while the major provider owns and controls the network and also offers services on that network. The directors of Telstra have a fiduciary duty to maximise shareholder value and they are therefore legally compelled to exploit the monopoly characteristics of the network in order to maximise the shareholder value of the total vertically integrated company.

The first step in the provision of broadband services is the vertical separation of Telstra. The behaviour of the network company is then crucial. The network economics are complex and some cost allocation decisions are arbitrary. In reality therefore, the regulator cannot have sufficient information to regulate the network company. In order to provide equitable access at reasonable prices it has to be owned by the public or its own end users.¹⁰

Axia NetMedia put the issue in a regional context:

It is our belief that all of the outcomes of adopting true structural separation of the broadband infrastructure from the Application and Retail Services sectors directly support the Government's national broadband objectives. Furthermore, this policy decision and approach is the only proven way to solve the broadband Digital Divide between metropolitan and rural communities.¹¹

Finding 2.6.7:

The structure of the telecommunications industry, including the integrated nature of Telstra, may be limiting the benefits of competition in regional areas.

Senator Lundy asked the following question in June 2008 Senate Estimates hearings:

In the ACCC's view, is the current operational separation regime that applies to Telstra an effective mechanism for promoting equivalency between Telstra and its competitors?

ACCC Chair, Graeme Samuel replied:

I can give a short answer to that or a slightly longer one. The short answer is probably no. We continue to receive complaints of conduct that suggest that the objective of equivalence, which was the objective of the regime, is not being achieved. There have been some instances of conduct since the regime's inception which, while it is not clear they breach the operational separation plan, do not promote the objective of equivalence which was the fundamental objective of the plan in the first place. In relation to the other objective of transparency, there is some additional reporting that the regime provides. However, this has been of limited benefit and is at a highly aggregated level. I guess, in summary, we would have to say that the regime is fundamentally unduly complex. There is a lot of discretion left to Telstra. There are limited self-regulatory mechanisms and unduly convoluted processes to implement any corrective action if a problem is identified.¹²

There are arguments against structural separation. Separation may prevent a company achieving efficiencies, including economies of scope and scale. It is possible that these higher costs could be passed on to consumers in higher prices. The benefits of structural separation may be so small that they do not justify the cost incurred from the structural separation. The main benefit of structural separation is the avoidance of risk that the vertically integrated company uses its market power to the detriment of other providers and consumers. If the costs of separation are significant it may outweigh the benefits. The Committee is not aware that the relative merits of these arguments concerning structural separation have been tested through any inquiry in Australia.

Finding 2.6.8:

During the Committee's consultation process and in the submissions on the regulatory requirements for the NBN there was support expressed for further structural reform.

There have been earlier calls for horizontal separation of the leading telecommunications provider. AUSTEL, in its review leading to the awarding of two additional mobile licenses, recommended that Telecom Australia (as it was then) should divest itself of its MobileNet division.¹³ The ACCC, in its report on emerging market structures, also recommended that Telstra be required to divest its interests in Foxtel.¹⁴

The Committee has already noted the comment on structure in the NBN Request for Proposal. However, the Committee notes that a number of the submissions on the regulatory requirements for the NBN focussed on the need for formal structural separation. For example, TERRiA in its submission states:

...structural separation should be the outcome of the NBN process and the centrepiece of an effective regulatory regime for the NBN.¹⁵

Similarly, Vodafone said:

To the extent that the successful NBN operator is associated with a vertically and horizontally integrated carrier, the market power of the NBN operator may be exercised to adversely affect competition in the delivery of other communications networks and services. Accordingly, to protect competition Vodafone is firmly of the view that structural separation between the NBN and other telecommunications services is by far the best, and perhaps the only truly viable, option to maximise the benefits for all Australians.¹⁶

The Committee notes that some other developed economies with competitive telecommunications markets have legislative provisions that would require the divestiture of industry participants in circumstances where this would be in the public interest.

The Sherman Act in the United States of America that underpinned the break-up of AT&T in 1984 is one example. In the United Kingdom, the *Enterprises Act 2002* provides for the Competition Commission to *decide whether any feature, or combination of features, of each relevant market prevents, restricts or distorts competition in connection with the supply or acquisition of any goods or services in the United Kingdom or a part of the United Kingdom* (s134(1)) and gives it the power to make orders providing for *the division of any business..[or] the division of any group of interconnected bodies corporate* (at clause 13(1) of Schedule 8). These provisions for divestitures to be ordered by a Court (in the US) or the Competition Commission (in the UK) both exist as part of competition law generally and not specifically for telecommunication. There is no equivalent law in Australia.

The Committee is not in a position to comment on the appropriateness of provisions similar to the above for Australia. Given the problems articulated to the Committee in relation to backhaul in particular, the interest expressed by many participants in the inquiry and submissions to the Australian Government on NBN regulatory issues, the Committee considers the issue deserves detailed consideration. This is particularly so in the light of the process for building the NBN and other publicly funded infrastructure projects, such as that recommended by this Committee in Chapter 3.1 — A New Framework. Such an investigation is necessary to maximise the opportunities for competitive outcomes, to avoid wasteful investment duplicating infrastructure where existing capacity exists and to ensure the maximum benefit is passed on to consumers and businesses.

It may be that the Australian Government will be satisfied by the access arrangements proposed by a proponent of the NBN without the need for structural separation. In that circumstance there would be no further change needed to industry structure. The Committee would be concerned about the potential risk of such an outcome if the proponent was able to use market power to damage competition in a way unforeseen by the Government. The significant benefit of having legislated divestiture powers as provided in the US and UK is that it provides a guarantee or option to the public against such a circumstance.

Therefore the Committee recommends that the Australian Government look into the merits of introducing legislative provisions that would provide for the forced divestiture of a business where this is in the public interest.

Clearly the Committee is not in a position to draft the provisions and would expect the Government to consult on it before implementation. The Committee does not accept that inquiring into the merits of such a divestiture power, or indeed the existence of such power, would create 'regulatory uncertainty' for NBN proponents to the disadvantage of the Government or the public. Uncertainty would only arise for a market participant that engages in anti-competitive conduct.

In making this recommendation the Committee draws some comfort from Telstra's second submission on the NBN regulatory matters. In that submission Telstra, referring to the risk that companies with strong (horizontal) market positions can use vertical integration to protect or enhance market power, states:

The separationists seize on [this] point. However, in doing so, they leap to three conclusions without any theoretical or empirical support:

- *first, that Telstra (or the NBN operator) will have unrestrained market power*
- *second, that Telstra (or the NBN operator) will have the opportunity and the incentive to misuse that market power, and*
- *third, that separation is the most efficient remedy to address that risk.*¹⁷

The Committee has the view that were the Australian Government to award the NBN to an integrated operator then it needs to recognise the existence of the risk Telstra has identified, and to legislate to enable separation as a remedy after the fact if the risk is ever realised. The Committee notes that such a legislative provision will act as a powerful incentive to reduce the likelihood of the risk being realised, but that the legislative provision is likely to have little or no other adverse impact on the market.

SUMMARY OF FINDINGS

<p>Finding 2.6.1: End users in regional areas have benefited from competition where it has occurred.</p>
<p>Finding 2.6.2: Currently, competition in communications services markets is not as intense in most regional areas as in urban areas.</p>
<p>Finding 2.6.3: Competition and innovation in urban markets can result in benefits for regional markets. Consequently, regulatory decisions about urban markets can have significant implications for regional markets.</p>
<p>Finding 2.6.4: Choice in the availability of retail services and providers can contribute to equitable service delivery for consumers in regional areas.</p>
<p>Finding 2.6.5: Spectrum is being under utilised in regional areas for the provision of telecommunications services. Access to already allocated spectrum could improve communications service availability.</p>
<p>Finding 2.6.6: The Australian Government could add 'use it or lose it' provisions in future spectrum licences. Alternatively, the government could include radio-communications spectrum in access legislation.</p>
<p>Finding 2.6.7: The structure of the telecommunications industry, including the integrated nature of Telstra, may be limiting the benefits of competition in regional areas.</p>
<p>Finding 2.6.8: During the Committee's consultation process and in the submissions on the regulatory requirements for the NBN the issue of structural reform was significant.</p>

RECOMMENDATIONS

<p>Recommendation 2.6.1: The Australian Government require the ACCC, in making a declaration, revocation or exemption determination for a defined geographic area, have regard to the impact in regional Australia of its decisions.</p>

Recommendation 2.6.2:

In conducting future spectrum auctions, the Australian Government give consideration to:

- a. adding ‘use it or lose it’ provisions in the licences in regional areas, or
- b. including providing for access to radio-communications spectrum in appropriate legislation.

Recommendation 2.6.3:

The Australian Government consider industry structure, including the costs and benefits to regional consumers of requiring a greater degree of separation between network and retail operations of telecommunications providers.

Recommendation 2.6.4:

The Australian Government, in any consideration of industry structure, inquire into the merits of legislation to provide for court ordered divestiture of market participants where this is in the public interest as a means of improving access to telecommunications services at reasonable prices and improving choice.

Endnotes

- 1 See Appendix F for a full discussion of the legislative framework.
- 2 The Seoul Declaration for the Future of the Internet Economy, OECD Ministerial Meeting on the Future of the Internet Economy, Seoul, Korea, June 2008.
- 3 Australian Competition and Consumer Commission, *ACCC telecommunications report 2006–07*, Commonwealth of Australia, Canberra 2008.
- 4 *ACCC Final determination for model price terms and conditions of the PSTN, ULLS and LCS service*, Table 9.4, October 2003.
- 5 A ‘capped’ plan is a plan where usage is only billed for up to a certain limit, and after that additional usage is uncharged. A ‘bucket’ plan is a plan where the first amount of usage up to a certain limit is charged at a concessional rate, and usage after that limit at a higher rate; sometimes the full amount of the bucket limit is also used as a minimum monthly spend.
- 6 *ACCC Telstra’s local carriage service and wholesale line rental exemption applications — Final Decision and Class Exemption*, August 2008. Available at the ACCC’s website.
- 7 Malcolm Moore, submission, p.7.
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- 11 Axia NetMedia, submission, p.3
- 12 Senate Economics Committee, Hansard Estimates 5 June 2008, pp.40–41.
- 13 AUSTEL, *Public Mobile Telephone Services: Report to the Minister for Transport and Communications*, AUSTEL Melbourne May 1990
- 14 ACCC, *Emerging market structures in the communications sector: A report to Senator Alston, Minister for Communications, Information Technology and the Arts*, ACCC, Canberra, June 2003.
- 15 TERRIA, National Broadband Network regulatory submission, p.2.
- 16 Vodafone, National Broadband Network regulatory submission, p.3.
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CHAPTER 2.7 — CONSUMER AWARENESS

INTRODUCTION

The development of competition and new services has provided the benefits of choice and innovation to consumers. Consequentially there is an expectation on consumers to understand complex information in order to exercise their choice.

Further, consumers rely on their providers and regulators: they expect that their provider would not sell them something that was unsuitable, and they assume the regulators would ensure that only appropriate (and safe) products would be available for sale. The Committee has found that this is not always the case.

Dissatisfaction with telecommunication services in regional Australia may be partly due to a lack of consumer awareness in relation to¹:

- broadband services — consumers raised concerns about complicated broadband plans, a lack of awareness of alternative broadband providers and government broadband programs
- mobile communications services — consumers expressed dissatisfaction that services and equipment were not appropriate or ‘fit for purpose’ and an expectation that terrestrial mobile phone coverage is a lot more extensive than it really is
- voice telephone services — there is a lack of awareness of the USO and the CSG in relation to repairs and other service entitlement issues, and
- a lack of knowledge about how to complain effectively and resolve issues with providers.

In May 2008, the Minister for Broadband, Communications and the Digital Economy, noted the importance of informed consumers:

...telecommunications consumers face an environment of continual technological change, globalisation, evolving market structures and new business models... we need well-informed consumers to make well-informed product and service choices. Better informed consumers will result in better outcomes for the industry.²

Knowledge of how to access an adequate service and the terms and conditions on which it is available is as important as the availability of the relevant service itself.

The lack of consumer awareness is not new and Governments have previously had programs aimed at improving awareness.

CONSUMER AWARENESS AND INFORMATION ARRANGEMENTS

A consumer protection framework is part of the current telecommunication regime. Agencies, including the ACCC, ACMA, and the Telecommunication Industry Ombudsman (TIO), as well as individual service providers all play a role in informing and educating the consumer (see Appendix F for more detail on the regulatory arrangements). Telecommunication consumers are protected by the general law, provisions in the *Trade Practices Act 1974*, and state and territory fair trading acts.

The Australian Government has also implemented a number of initiatives aimed at improving consumer awareness about telecommunications in regional Australia. Between 2001 and 2007, there have been three Australian Government awareness raising information campaigns. The first, in 2001, was conducted in response to the Besley Inquiry. The second, from 2003 to 2005 was conducted in response to the RTI (2002). Both campaigns ran television, radio and press advertising and conducted public relations activities.

The key messages were:

- consumer rights under the CSG
- the benefits to communities from local telecommunication projects, and
- the benefits of competition and, later, the benefits of broadband, including the Higher Bandwidth Incentive Scheme (HiBIS) when first introduced in 2004.

The second campaign also included 34 regional briefings across Australia, engaging and educating key stakeholders on Australian Government programs such as HiBIS, Demand Aggregation Brokers and the Coordinated Communication Infrastructure Fund.

The third campaign, launched in 2007, was the 'Your telecommunications safeguards: pointing you in the right direction'. It involved targeted television, press and radio advertisements and a fridge magnet pamphlet that detailed the Australian Government's telecommunications safeguards. The guide referenced the USO, the CSG, the TIO, the Australian Broadband Guarantee (ABG) and the previous Australian Government's Protecting Australian Families Online initiative that aimed to protect children from illegal and offensive online content. The pamphlet was sent to more than three million residents in regional Australia and was supported by television and rural press media.

Regional briefings were also held in May to July 2007, promoting existing and new programs that were available. This program received positive support from the Consumers' Telecommunications Network (CTN):

One recent success seems to be the fridge magnet information pamphlet 'Your Telecommunications Safeguards'. The decision to make it a fridge magnet seems to have been successful in encouraging people to keep the information for when it is needed, rather than recycling or throwing the information away. The TIO fridge magnet was also praised in our consultation as a great way to ensure people have a reference point readily available when they need to seek help.³

The Australian Government has also implemented two other recommendations related to consumer awareness from the RTI. Recommendation 3.3 stated that, *Government and industry should inform consumers about mobile phone services, including technology and coverage limitations, fees and charges, mobile number portability, and contract issues.*⁴

In response, ACMA published a modified 'teacher tool kit' and distributed this to 2500 secondary schools in early 2004. The teacher tool kit is a classroom resource for teachers and is designed to help students understand their rights and responsibilities in managing their personal telecommunications spending. This includes encouraging them to consider various issues related to their use of mobile phones. Recommendation 7.1 of the RTI stated that, *...measures should be taken to provide telecommunications consumers with a simplified statement of their legislated rights, and to get the message to them more effectively.*⁵ In response, ACMA published the one-page *Summary of Telecommunications User's Rights*⁶ in January 2004 and has since updated and re-published its 'Consumer tool kit' series.

The Committee is not aware whether these programs were effective.

CONSUMER AWARENESS IN REGIONAL AUSTRALIA

The reduced choice and lack of competition raises particular consumer awareness issues in regional Australia. Telstra's past monopoly presence means that there is still a perception that it is the only carrier able to deliver reliable telecommunication services on an ongoing basis. The Committee heard that people would stick with Telstra because *they are out here, and it is when things go wrong that it matters.*⁷

Aside from the benefits to the consumer, an informed consumer would bring tangible benefits to the industry. A healthy, competitive market is partly attributed to informed and confident consumers.⁸ In such an environment, unscrupulous businesses are less likely to survive and consumers are more willing to try new and/or unfamiliar suppliers. These effects boost competition, lower prices, increase quality and promote innovation.⁹

This is especially relevant for regional Australia where the traditional and historic presence of the incumbent means that many consumers are not aware of alternative providers.

Finding 2.7.1:

Consumers in regional Australia are not sufficiently aware of alternative providers.

The take-up of technology, for example, broadband, is less prevalent in regional Australia (see Chapter 2.2 — Broadband). As already discussed throughout this report, regional Australians face particular challenges, including the disadvantages of isolation: physical, economic and social. Improving their access to the right information about the different kinds of telecommunication services will keep them connected with the rest of country and the world. As the Mayor of Narromine notes,

*The very fact that our community is geographically far from the major coastal cities makes the provision of effective communication imperative. The additional stress suffered by people living in regional areas who rely upon agricultural pursuits for their livelihood has been well documented. The provision of an acceptable level of communication is paramount to the survival of these communities.*¹⁰

CONSUMER AWARENESS ISSUES FOR REGIONAL TELECOMMUNICATIONS

Regulatory complexity

The telecommunication market is heavily regulated. The Productivity Commission's *Review of Australia's Consumer Policy Framework* notes that telecommunication customer contracts are subject to many pieces of legislation.¹¹ The Productivity Commission cites the regulatory complexity of the telecommunication market as an example of the shortcomings for consumers.¹²

The Committee heard through its consultations that consumers in regional Australia are not aware of their legislative rights. For example, they do not know what the USO or the CSG means for them. As detailed in previous chapters, the USO is generally vague and confusing and this has caused great consumer misunderstanding.

Problems with the USO arrangements applying to payphones were discussed in Chapter 2.4 — Payphones. The USO provider is only required to make 'all reasonable efforts' and it does not provide an unconditional guarantee that any individual will be able to gain 'reasonable access' to payphone services. Consumers are often uncertain whether a particular payphone is protected from removal by the USO arrangements. For example, Mayor Lyn Gunter of the Murrindindi Shire Council in Victoria, spoke of a Telstra payphone (allegedly a phone that they are paid a public subsidy to maintain) that was removed by Telstra.¹³ Although Telstra has since re-sited the payphone, the removal caused considerable community confusion and concern.

'Exceptions' to the regulatory framework for voice telephony cause consumer confusion. For example, under the CSG, a carrier service provider can claim exemption from connection and fault repair requirements by giving public notice of a Mass Service Disruption (MSD). This is discussed in Chapter 2.3 — Voice Telephony Services.

Another example of consumer concern is the application of regulations to fixed voice telephony services supplied to customers using wireless technologies. With Telstra closing its fixed voice service using its CDMA wireless technologies, Telstra offered consumers a replacement service using its 3G wireless network. Although the previous fixed service using the CDMA wireless network was subject to regulations such as the USO and CSG, the replacement service was offered on the condition that the customer agree to waive the application of regulations to the service. Confusion and concern arose among consumers because consumers felt they had little choice but to agree.¹⁴ Many felt they have been abandoned by the consumer safeguard regime.¹⁵

Finding 2.7.2:

The current regulatory arrangements are complex and do not help transparency and consumer understanding.

Consumer awareness and broadband

Chapter 2.2 — Broadband describes the confusion over the variety of broadband plans available on the market. A local councilor notes that broadband plans are:

*...complicated and confusing with different pricing regimes; some charge for uploading, others not; some require long term contracts; some require the purchase of the satellite dish, others not.*¹⁶

A representative from the Tasmanian Electronic and Commerce Centre notes that technical shorthand and technology jargon inhibits consumer understanding and the ability to select the right plan.¹⁷ They site the example, *...speeds of up to 12Mbps does not mean speeds of 12Mbps.*

This view is supported by the Western Australian Government:

*...detailed and confusing phone and internet plans, tariff schedules and a general lack of information on services, works in favour of service providers as purchasing decisions by the public are then more easily persuaded by clever emotional marketing campaigns.*¹⁸

Furthermore, the Committee noted that the level of awareness of Australian Government broadband programs varied in the consultations. At consultation meetings in Western Australia and New South Wales, current Australian Government programs such as the ABG were recognised. In others, the ABG is not widely known.¹⁹ The direct marketing or advertising of programs such as the ABG has generally been left to individual providers who have a strong incentive to make the subsidy known to potential customers.

In South Australia, local government representatives consider the ABG to be too complex and the average person would not be technologically literate enough to understand it.²⁰

The Australian Government has implemented a number of initiatives that address consumer needs and concerns. Examples include the Broadband Service Locator, the BroadbandNow program and the Department's 1 800 consumer helpline. The Committee found there was a very poor awareness of the existence of these advisory services.

Participants generally understand that both the government and industry have a role to play in raising consumer awareness.²¹

Consumer awareness and mobile communications

There is considerable concern over the availability of information at the point of sale, especially when new technology is being introduced. There is general confusion about the differences in mobile networks, and the additional requirements needed to receive a signal in some areas (for example, external antennas or car kits).

During the consultation meetings, one attendee claimed that actual coverage does not match the maps provided.²² When given an antenna by the Telstra representative at the meeting, coverage improved. The gentleman argued that awareness of this solution should be more widely distributed. A similar lack of awareness was noted in another consultation, where consumers were unaware of external antennas or car kits, the 'blue tick' phone and the 'farmers' 3G' phones.²³

The Committee believes that the marketing of the Telstra's 3G terrestrial mobile network has not matched the experiences of many consumers. This has contributed to some of the difficulties and frustrations experienced during the transition phase:

*Telstra's continuing upbeat promotion of how good we will find the Next G™ system is a misrepresentation of the economics of the situation and the Next G™ coverage.*²⁴

In Naracoorte, the Committee heard that handsets were sold to consumers on the promise that they would 'definitely work' in their area. Customers returned to their homes to find that they did not.²⁵ Similar sentiments were expressed throughout the consultation program.²⁶

There also appears to be general confusion surrounding the date of the CDMA shutdown. In Launceston, a representative from the Country Women's Association noted that she and the women she represented felt pressured to buy new phones and switch to the new network prematurely.²⁷ Many members did not understand that 28 January 2008 was the proposed shutdown date and that Telstra could not shut its CDMA network until the Minister was satisfied that equivalent coverage had been achieved.²⁸

*There is widespread frustration with the adequacy of the Next G™ and similar networks. Telstra is in fact holding a gun to CDMA users heads to changeover to an inadequate service... Adding to this frustration is the fact that those who... changed over early now find themselves saddled with out of date, ineffective handsets with no option to change over at no or a reduced cost.*²⁹

The Committee also heard of the lack of training provided to retail and call centre staff in handling the transition and handset concerns³⁰ and that the advice provided by the local Telstra shops was often inaccurate.³¹ Telstra has since informed the Committee that an accreditation program would be introduced for all retail and call centre staff.³²

The CDMA/ Next G™ switch-over seems to be the latest in a line of technology developments that have not been introduced well. Other examples include the transition from the Analogue Mobile Phone System (AMPS) to GSM, and the introduction of ADSL where some consumers are unaware that access to ADSL is dependent upon distance from the exchange.

The CTN advises that it is preparing a report on broadband accessibility that will require a community impact statement in cases of broadband infrastructure rollouts.³³ The concept of a community impact statement has also been relevant in gaming and liquor licensing laws. The concept can be extended to any service where there might be consequences for people outside the scope of the intended market, or where the product or service may inappropriately target members of the community.

The CTN made a wider ranging recommendation along these lines in its submission to the Productivity Commission review of the Consumer Policy Framework. In that submission it notes:

A recent [proposal] by consumer advocates is requiring the industry to develop community impact statements for a new product or type of service entering the market. The industry have (to date) refused to consider a project scoping this potential policy tool. The CTN thinks this would be an effective means of requiring due consideration to be given to consumer issues.³⁴

The CTN further describes the concept:

Once a product or technology is researched and developed and ready for introduction to the market, consumers find it is too late to do much about it even, particularly if the product or technology is going to have major disadvantages for consumers. Influencing a process such as the development of customer equipment is seemingly out of the capabilities of consumer advocates. Time and again, inappropriate products and services come to the market without consultation that could have prevented consumer detriment, to a degree...

Given the complexity of the telecommunications marketplace and the 'confusopoly' approach toward consumer information, we see a need for the industry to develop community impact statements for all major new products and services in consultation with consumers before their introduction. This should be

done in tandem with trials and pilots to ensure that it is as usable and accessible by as many sectors of the community as possible and that it does not cause any interference with existing technologies or equipment.”³⁵

Other submissions have also noted that the industry must play a role in technology transition phases. The Tasmanian Fishing Industry Council notes:

*...the seafood industry understands the need to improve networks and the requirement to upgrade equipment, it is requested that telcos be **obliged** to ensure that users are not left out of pocket in real terms, that is there is no additional costs or inconvenience in transferring to new network equipment...³⁶*

Finding 2.7.3:

The industry must better accommodate the needs of consumers in regional communities when withdrawing existing services during technology transition phases.

Awareness of complaint processes

The level of awareness of complaint processes also varied in consultation meetings. There was little awareness of the existence of the TIO in consultation meetings held in the Northern Territory, Tasmania and South Australia whereas in consultations in Bairnsdale and Mildura in Victoria there was some awareness of it.

Where there is awareness of the TIO, some consumers claim that the TIO is not responsive and makes little difference in regional areas.³⁷ In other cases, the TIO is considered good for getting a compassionate response but cannot resolve the issue quickly.³⁸ As representative of the New South Wales Country Women’s Association notes, some are aware of the TIO but choose not to access their services as, *regional folks generally just get on with it.*³⁹

Others express the view that all consumer protection bodies lack authority:

(I) have found that they (the TIO), like other consumer protection bodies, do not have the legislation or skills or whatever it is that they are needing (I’m unsure as to what) to back them in fixing issues in any suitable time frame.⁴⁰

Generally poor customer service from the industry and frustration with the need to regularly follow up service problems with the relevant provider is prevalent in regional Australia. During the consultations, one gentleman explained that the number of help lines (for different purposes) is confusing and it takes many calls, long hold queue

waits and multiple transfers to access the 1800 OUR TCW (Our Telstra Country wide) number.⁴¹ Another asked, *Why is it that the 1800 number to complain about the Next G™ service can take at least half an hour to be answered?*⁴²

Finding 2.7.4:

Awareness of complaint processes could be improved within regional Australia. Even where there was an awareness of a complaint process, there was a perception that it was not necessarily useful in getting the problem fixed.

The Committee met with the TIO as part of its consultation program. The Ombudsman recognised the increase in calls and described the strategies adopted by the TIO to address this, including increasing human resources.

The TIO was externally audited in 2006. The Allen Consulting Group found that, in general, the TIO is a highly effective alternative dispute resolution service but some specific groups have a low awareness of the TIO.⁴³ They found that there was some concern about the average time taken to resolve disputes, particularly those that are relatively complex. Despite this, the external auditor did not find any fundamental problems or failings that would undermine the TIO's overall effectiveness.

Consumer awareness remains an issue in regional Australia, despite numerous attempts by government and industry to offer solutions. As the South Australian Government notes:

*It is surprising to observe the extent of the lack of awareness of these programs, despite publicity and awareness campaigns regarding broadband funding programs.*⁴⁴

The government has already implemented a number of consumer awareness and information campaigns that have included:

- website, television, press and radio advertisements
- leaflets, and
- consumer help lines.

There are also current and ongoing initiatives taking place, including Australian Government support for a consumer representative stakeholder forum and a consumer representation grants program (as legislated under Section 593 of the *Telecommunications Act 1997*).

There are already independent comparative broadband websites available, in particular, <http://whirlpool.net.au> which is a community initiative. As one submission observes, *I believe there is enough information if people choose to take it in.*⁴⁵

Consumer awareness in some instances has improved. Past marketing initiatives may have achieved their initial aims or outcomes. However, given the rapid changes and developments in the telecommunication environment, raising consumer awareness will require ongoing and sustained efforts from governments, industry and the consumer.

A simplification of the current consumer protection framework, which includes the USO, CSG, NRF and others, is also needed. The introduction of a minimum Communication Service Standard (CSS), as described in Chapter 2.3 — Voice Telephony Services and Chapter 3.1 — A New Framework, would greatly improve consumers' awareness of their legislated rights. It would eliminate the need for consumers to understand multiple policies, frameworks and programs in order to understand their rights. A minimum consumer standard would also remove some of the loopholes currently prevalent in the protection framework.

The Australian Government should consolidate all the information available from different government departments and agencies. As the CTN notes:

*There seems to be some overlap between all the information produced by state consumer protection bodies, the ACCC, DBCDE, industry bodies, the TIO and ACMA. We are not aware of any coordinated efforts to work in collaborative ways to ensure precious resources are used to greatest effect. ACMA have also scaled back their consumer education activities, without another agency taking over responsibility for them.*⁴⁶

Finding 2.7.5:

It may be appropriate for the ACMA to review all the available information on consumer protection frameworks and consolidate this into one central point on a website that facilitates access. Each agency with a responsibility for consumer issues in telecommunications could then provide a link to the new site.

DISCUSSION AND RECOMMENDATIONS

As with any new initiative (for example, the new website and the CSS), the Australian Government must implement an appropriate communication strategy, targeted at regional Australia. The Committee believes that the best way to disseminate a message through regional areas is through word of mouth, not more Australian Government funded advertising and marketing.

As noted in the submissions, *People in remote areas appear in many ways to have closer ties and networks for sharing information and seeking assistance...*⁴⁷ The South Australian Government notes, *Local Government can provide a vital service in this regard (raising awareness), with appropriate support.*⁴⁸

Raising consumer awareness must start at the grassroots level by creating the best possible experience for the consumer so they spread the message.

Similarly, improving the complaint processes would restore community trust. Although the Committee has met with the TIO and is satisfied with the strategies being put in place to resolve consumer complaints, it only takes one negative experience to create the perception within a community that the TIO is not helpful.

Any new initiative should be communicated through peer groups such as farming groups, local councils and schools. The Australian Government should facilitate this but the solutions must be local.

In response to the concerns raised in relation to the CDMA/ Next G™ switchover, the Committee is keen to ensure that future technology rollout is implemented with minimal negative impact on regional communities.

As noted in Chapter 1.1 — Social Inclusion, all future technological developments must be engaged in a way that ensures they meet consumer needs. This includes appropriately preparing consumers and other parts of the industry, particularly the retail sector, for new developments and rollouts. And perhaps most importantly, handling the withdrawal of existing services in such a way that does not adversely affect consumers.

The next major technology transition might be the rollout of the NBN network (see Chapter 2.2 — Broadband). The Committee recommends that the Australian Government works with industry to develop community impact statements for this and any other future technology rollouts.

The Committee encourages government and industry to adopt appropriate measures to educate regional communities about the likely impact of the rollout and the choices available to them. Government and industry must ensure that affordable internet access with lower priced plans will still be available and that consumers are made aware of this.

SUMMARY OF FINDINGS

Finding 2.7.1:

Consumers in regional Australia are not sufficiently aware of alternative providers.

Finding 2.7.2:

The current regulatory arrangements are complex and do not help transparency and consumer understanding.

Finding 2.7.3:

The industry must better accommodate the needs of consumers in regional communities when withdrawing existing services during technology transition phases.

Finding 2.7.4:

Awareness of complaint processes could be improved within regional Australia. Even where there was an awareness of a complaint process, there was also a perception that it was not necessarily useful in getting the problem fixed.

Finding 2.7.5:

It may be appropriate for the ACMA to review all the available information on consumer protection frameworks and consolidate this into one central point on a website that facilitates access. Each agency with a responsibility for consumer issues in telecommunications could then provide a link to the new site.

RECOMMENDATIONS

Recommendation 2.7.1:

The Australian Government must include appropriate strategies to communicate relevant information to people in regional Australia when considering new consumer protection or regulatory initiatives.

Recommendation 2.7.2:

The Australian Government encourage and, if necessary, require industry to prepare and consider community impact statements:

- a. prior to the withdrawal of existing services, or
- b. with the introduction of new technologies or services which result in a transition to new services, and
- c. for rural and remote users in particular those in the Extended Zones.

Recommendation 2.7.3:

The Australian Government undertake and publish evaluations of the impact and effectiveness of consumer awareness programs for telecommunications.

Other relevant recommendations are:

- a. improving better understanding of mobile phone coverage and mobile phone limitations: Recommendation 1.4.1(c), and Recommendation 2.1.3
- b. improving better understanding of broadband options and plans: Recommendation 2.2.2
- c. improving consumer awareness of telecommunication issues in general: Recommendation 1.5.2, Recommendation 3.1.1(c), Recommendation 3.1.4, and Recommendation 3.1.5

Endnotes

- 1 The Committee heard through its submissions and public consultation meetings that consumers in regional Australia in general, are not aware of their legislated rights. Consumer awareness issues were particularly raised in Albany 5 February 2008; Launceston 19 February 2008; Cloncurry 8 April 2008; Townsville 10 April 2008 and Parkes 7 May 2008.
- 2 Senator the Hon Stephen Conroy, Minister for Broadband, Communications and the Digital Economy, *A Stronger Voice for Consumers*, media release, Parliament House, Canberra, 1 May 2008.
- 3 Teresa Corbin, *Consumers' telecommunications network*, submission, p.27.
- 4 RTI, *Connecting regional Australia: the report of the Regional Telecommunication Inquiry*, November 2002, p.144.
- 5 RTI, *Connecting regional Australia: the report of the Regional Telecommunication Inquiry*, November 2002, p.144, p.269.
- 6 Australian Communications and Media Authority, *Your rights to a telephone service fact sheet*, Melbourne, viewed 3 July 2008, www.acma.gov.au/WEB/STANDARD/pc=PC_1683
- 7 Cloncurry public meeting, 8 April 2008.
- 8 Productivity Commission, *Review of Australia's consumer policy framework*, final report, Canberra, 2008, p.12.
- 9 Productivity Commission, *Review of Australia's consumer policy framework*, final report, Canberra, 2008, p.12.
- 10 Cr Dawn Collins, submission, p.1.
- 11 Productivity Commission, *Review of Australia's consumer policy framework*, 2008, p.12.
- 12 Productivity Commission, *Review of Australia's consumer policy framework*, 2008, p.12.
- 13 Melbourne stakeholder meeting, 22 February 2008
- 14 Cloncurry public meeting, 8 April 2008; Richmond public meeting, 9 April 2008; Parkes public meeting, 7 May 2008.
- 15 Cloncurry public meeting, 8 April 2008; Richmond public meeting, 9 April 2008; Parkes public meeting, 7 May 2008.
- 16 I Howard, Meander Valley Council, Launceston public meeting, 19 February 2008.
- 17 J McCann, Tasmanian Electronic Commerce Centre, Hobart stakeholder meeting, 20 February 2008.
- 18 Western Australian Government, submission, p.11.
- 19 Cloncurry public meeting, 8 April 2008.
- 20 P Muskett, Murray and Mallee LGA, Adelaide stakeholder meeting, 11 March 2008.
- 21 Adelaide stakeholder meeting, 11 March 2008.
- 22 Daly River public meeting, 16 April 2008.
- 23 Balgo public meeting, 17 April 2008.
- 24 G J and RA Gibbins, submission, p.1.
- 25 Naracoorte public meeting, 12 March 2008.
- 26 Port Hedland public meeting, 5 February 2008; Bairnsdale public meeting, 20 February 2008; Launceston public meeting, 19 February 2008; Horsham public meeting, 13 March 2008.
- 27 Country Women's Association of Tasmania, Launceston public meeting, 19 February 2008.
- 28 Senator the Hon Stephen Conroy (Minister for Broadband, Communications and the Digital Economy), *Government Receives Report on Telstra's Next GTM Coverage*, media release, Parliament House, Canberra, 9 January 2008.
- 29 Low Rainfall Collaboration Group, submission, p.3.
- 30 Launceston public meeting, 19 February; Hobart stakeholder meeting, 20 February 2008.
- 31 Cloncurry public meeting, 8 April 2008.
- 32 G Wiltshire, Telstra Country Wide, Melbourne stakeholder meeting, 22 February 2008.
- 33 Teresa Corbin, *Consumers' Telecommunications Network*, submission, p.17.
- 34 *Consumers' Telecommunications Network*, submission to the Productivity Commission Review of Australia's Consumer Policy Framework, May 2007, p.14.
- 35 *Consumers' Telecommunications Network*, submission to the Productivity Commission Review of Australia's Consumer Policy Framework, May 2007, p.35.
- 36 Tasmanian Fishing Industry Council, submission, p.3.
- 37 Cloncurry public meeting, 8 April 2008.

- 38 Alice Springs public meeting, 17 April 2008.
- 39 P Shergis, Country Women's Association, Sydney stakeholders meeting, 9 May 2008.
- 40 Sherrilyn Robinson, submission, p.3.
- 41 Balgo public meeting, 17 April 2008.
- 42 Rob Lange, submission, p.1.
- 43 *Telecommunication Industry Ombudsman 2007 Annual Report*, Melbourne, 2007, p.3.
- 44 South Australian Government, submission, p.19.
- 45 Sherrilyn Robinson, submission, p.6.
- 46 Teresa Corbin, Consumers' Telecommunications Network, submission, p.27.
- 47 Teresa Corbin, Consumers' Telecommunications Network, submission, p.26.
- 48 South Australian Government, submission, p.19.

TOWARDS THE FUTURE





Balgo community meeting, NT. Bruce Scott, Dr. Bill Glasson, Ronald Mosquito, Maggie Kavanagh and Luke Dingle. 17 April 2008 (in addition, on previous page Alexandra Gartmann and Marcia Farrer (Petra)).

CHAPTER 3.1 — A NEW FRAMEWORK

Mobile and broadband services are growing rapidly in significance in regional Australia. They are, of course, equally important for urban areas. What differs is the degree of choice, technology used to deliver services, and equitable terms and conditions of access and, therefore, adequacy of services in regional Australia.

Over time a range of Australian Government programs have sought to address this difference. However, in the more remote areas of Australia, future equitable access to mobile and broadband communications services remains uncertain.

At the same time, it is widely understood that enhanced telecommunication services are essential for both social and economic development in regional Australia. They help:

- provide a competitive advantage in global markets
- foster social cohesion and participation
- reduce isolation, and
- facilitate the delivery of public services such as health care and education.

Telecommunications development in rural Australia should remain a national goal.

Unlike voice telephony and payphones, there is no guarantee of access or continuity of access for mobile and broadband services. The USO only applies to voice services — as set out in Part 2 of the *Telecommunications (Consumer Protection & Service Standards) Act 1999*. Further, Australian Government programs supporting mobile and broadband services are typically short-term. There is no over-arching assurance of equitable access.

Unlike some other important goods and services, the market alone cannot be relied upon to assure future equitable access to these communications services. The level of mobile and broadband services currently available in regional Australia has only been achieved through a range of government market interventions, including substantial publicly funded subsidies to providers.

The current gaps in service adequacy and Australian Government interventions are detailed in the previous chapters and in Appendix F. It is reasonable to conclude that, in the absence of such interventions, the provision of these services to consumers on an equitable basis is not commercially viable. Therefore, there are real risks of service adequacy gaps worsening.

The idea that the concept of universal service in the telecommunications legislation should be expanded to include internet access technologies and broadband communications is not new.

- In 1996, the report of the Review of the Standard Telephone Service recommended that a digital data capability... *should be provided through the USO mechanism*¹ where it is not provided through the operation of the market. The review did not recommend the inclusion of mobile telephony because it concluded that the mobile telephone services were not sufficiently socially important at the time.
- In 1998, the Australian Communications Authority Digital Data Service Review was instructed by the then Minister to conduct a public inquiry into whether the benefits of prescribing a minimum data rate access to the internet would exceed the costs.²
- In the 1999 legislative package supporting the second stage of the privatisation of Telstra the 'universal service' legislative provisions were amended to provide for a 'Digital Data Service Obligation' to ensure all people in Australia have access upon request to a digital data service of 64kbps.

As noted in earlier chapters, the Committee heard in its consultations of the desire that some form of 'universal service' should apply to voice, mobile and internet services. These views have also appeared in the submissions on National Broadband Network (NBN) regulatory matters. For example, the NSW Farmers' Association said:

*The USO must be broadened to include a guarantee that timely and affordable access to future technology be provided to rural and regional NSW, ...to include data standards as well as telephony standards.*³

They have been supported by e-Applications Special Interest Group (e-ASIG) which said:

*The concept of a USO should be retained and reformed into a Community Service Obligation. This is required to ensure that minimum nationally agreed benchmarks in bandwidth and broadband services are provided within a local community geographic area.*⁴

In responding to community concerns about access to these important services, successive governments have implemented a range of measures aiming to improve the availability and price. These measures have dramatically and significantly improved access to telecommunications for people in regional, rural and remote parts of Australia.

In addition to the competition and privatisation reforms, governments have devoted considerable public funds to support access to voice services, the internet, mobile services and payphones.

Programs have included, for example:

- providing local call dial-up access to the internet through the Networking the Nation programs which funded the development of local internet service providers
- supporting untime local calls for customers through the 'extended zones' agreement with Telstra
- expanding the geographic reach of terrestrial mobile phone networks through Australian Government programs such as Networking the Nation and Towns over 500 Agreement
- guaranteeing access to metro-comparable internet services through programs such as the Australian Broadband Guarantee (ABG) and its precursors, and
- improving access to payphones for remote Indigenous communities through programs such as Backing Indigenous Australia.

Today, the Australian Government is implementing the policy for the roll-out of the NBN to:

...deliver minimum download speeds of 12 megabytes per second to 98 per cent of Australian homes and businesses.... and enable uniform and affordable retail prices to consumers, no matter where they live.⁵

However, none of these measures address the issue of uncertainty and fragility of supply, or the need for ongoing improvements in service accessibility for individuals and small businesses in regional areas. Without ongoing improvements regional Australia will fall behind urban Australia.

Further, lack of certainty and the short-term nature of some previous incentive-based interventions may adversely affect consumers' use and reliance on these services and providers' willingness to investment in infrastructure. For example, the ABG program is an Australian Government scheme that subsidises regional broadband connections on a per customer basis. In the past, providers have been subject to unpredictable changes with funding shortfalls and transition arrangements from one funding period to the next. This has resulted in thousands of dissatisfied customers, despite the benefits the

program has delivered to hundreds of thousands of consumers. Therefore aspects of the program have been criticised. The Committee notes the Australian National Audit Office (ANAO) report on the management of the ABG program and its precursors.⁶

Finding 3.1.1:

The objective of ensuring communication services are available across Australia remains valid and should continue into the future.

Finding 3.1.2:

Australian Government involvement currently supports access to voice services, internet and mobile services. The lack of certainty inherent in some programs inhibits both consumer take-up and provider investment.

THE NEED FOR A NEW FRAMEWORK

Addressing the need for ongoing programs by expanding the scope of the universal service regime as currently framed is not practical.

As discussed in Chapter 2.3 — Voice telephony services and Chapter 2.4 — Payphones, there is substantial controversy about the current USO arrangements. ACMA referred to the USO arrangements as a ‘broken concept’ and identified three areas of significant concern:

- its administration and costing
- the collection of USO levy payments, and
- the standard marketing plan and service standards.⁷

Similar concerns are expressed by other bodies in submissions to the Australian Government’s review of the USO. The Committee notes nearly all stakeholders dislike the current arrangements for the USO.

As mentioned in Chapter 2.3 — Voice telephony services, the USO arrangements are vague. As a consequence, awareness of the USO arrangements is poor and the level of understanding of how they operate is worse. This was clearly apparent to the Committee during its consultations. The mistaken belief that the USO confers on consumers or businesses a right is common. But the USO does not give a statutory right to consumers

to access services. There are no express provisions in either the *Telecommunications Act 1997* or the *Telecommunications (Consumer Protection and Service Standards) Act 1999* which would confer on a private person an express right to enforce through the courts the provision of a service covered by the USO. The USO does create a statutory obligation on the USO provider, and that obligation is enforceable by the ACMA under the *Telecommunications Act 1997*.

Poor understanding of the arrangements is also understandable given the overlay of measures that have been considered necessary to ensure a 'sufficient and satisfactory' standard of service is available to consumers. These 'overlay' measures include the Customer Service Guarantee, the Priority Assistance Service and the Network Reliability Framework and are discussed in detail in Chapter 2.3 — Voice telephony services and in Appendix F.

The Regional Telecommunications Inquiry (RTI) in 2002 also noted the problems with the USO arrangements. They recommended the arrangements be reviewed and that future equity objectives not be achieved through the traditional USO arrangements.⁸

As noted above, the Committee considers the concept of universal service remains valid: the community expects that basic communications services be available to people and businesses irrespective of their location within Australia.

Reflecting the importance and significance of these services, the Australian Government already accepts (through its various programs) that universal service needs extend to mobile and broadband services. However, the Committee believes there is a need to provide greater assurance and certainty for ongoing accessibility to these services. The current USO arrangements are unsuitable for this and the Committee notes that they no longer work effectively. A new framework is needed.

Finding 3.1.3:

The current arrangements for the USO are no longer working effectively. There is a need to provide greater certainty over future access to mobile, broadband and voice services. The USO regime is not suitable for extension to these services. A new framework is needed.

THE OPPORTUNITY FOR A NEW FRAMEWORK

The Committee is aware that technological developments are dramatically reducing the cost of making communication services available to people in remote parts of Australia. This means the previously prohibitive costs in providing services to remote Australians are now substantially lower, and there is potential for costs to be further reduced.

For example, the provision of new voice services to premises without a copper wire connection to the network can be achieved in many instances for far lower cost through the use of mobile telecommunications infrastructure. Similarly, the Committee understands that high speed broadband can also be provided through wireless technologies (including mobile telecommunications infrastructure and technologies such as WiMax), at lower cost in many cases.

Such technological progress, along with competitive markets, and the proposed roll-out of the Australian Government's NBN, can be expected to make adequate services available to the vast majority of people in Australia.

Under the NBN:

- reduced costs and improved infrastructure capabilities will facilitate some extension of competitive markets into regional Australia. One example is the plan for Optus and Telstra 3G mobiles noted in Chapter 2.1 — Mobile communication. Also, competitive markets are already delivering geographically uniform prices for terrestrial mobile phone services and long distance phone calls, and
- high quality voice, data and video services will be supported for 98 per cent of Australian homes and businesses — the NBN will also enable uniform and affordable retail prices to consumers, no matter where they live.

Nevertheless, as noted above, there is still a need for ongoing Australian Government intervention. Firstly, as the Committee has found in this review and detailed in the previous chapters, service adequacy gaps remain in some areas.

Secondly, given the development of the market in regional Australia in association with significant Australian Government funding assistance and the changing nature of communications services, there remains a need to provide an assurance or guarantee of ongoing service accessibility.

While the NBN offers significant changes, it does not provide an ongoing assurance or guarantee of service accessibility for all Australians.

Finding 3.1.4:

Technological developments and the NBN provide an opportunity to review consumer protections.

A NEW FRAMEWORK

The Committee considers that a legislative framework on universal service is needed to ensure, to the extent that is possible, the Australian Government continues interventions to address any gaps or shortfalls in service access. This will ensure that these significant and important communications services are available to all people and businesses in Australia, regardless of where they live and work.

The term 'live and work' is not to be construed as suggested services only need to be made available to one particular geographic location or street address. For example, people do not necessarily work in one particular location, and many people spend significant periods of time away from one particular residential address, as highlighted in Part 1.

The proposed legislative framework will be an over-arching strategic and longer-term framework that will provide the assurance or guarantee necessary for consumers and providers to have reasonable certainty about future accessibility. It will also support better utilisation by consumers and investment by industry.

By providing for specific Australian Government intervention that is directed only to where there is a gap in service accessibility, any adverse impacts on investment and competition will be minimised. Indeed, the greater certainty will foster increased, and more efficient, investment in infrastructure.

The RTI in 2002 commented that the preferred approach to achieve future service equity objectives in competitive markets is through incentive schemes transparently funded by government that seek to stimulate competition and choice while also promoting equity of access.⁹

The Committee agrees with this approach, and suggests that any legislative framework needs to allow for service accessibility objectives to be achieved in this way. Government intervention should be targeted at specific gaps or problems to ensure the service equity

objectives are achieved. The Committee also suggests that service equity objectives need to be clearly and precisely articulated through the specification of standards. Without specified standards, the concept will remain vague and will not provide any tangible or recognised benefit to household and business consumers.

The arrangements need to be able to accommodate changes in technologies and the market, and ensure the accessibility relativities between regional and urban Australia remain relevant and are maintained or improved over time. The Committee considers that arrangements need to be able to deal more effectively with changes in relativities of service access.

The Committee supports an approach that would accommodate these requirements and should comprise the following elements:

- The legislation provide for the Minister to specify standards, based on advice from independent bodies (including the RTIRC). This would allow the Minister to amend the standards to ensure they remain relevant and appropriate. It would enable the Australian Government to weigh up the potential benefits and costs, including the likely fiscal and opportunity costs of achieving the standards. Most importantly it would provide a way for the Government to be held transparently accountable for the objectives. The involvement of the RTIRC would provide for ongoing transparent advice. The standards would also provide consumers and the industry with clear and easy-to-understand information.
- The legislation require the Australian Government to develop an implementation plan detailing the measures or interventions necessary to ensure individuals and businesses can purchase services that meet the standards, irrespective of their location in Australia. The interventions would preferably include transparently funded incentive schemes that seek to stimulate competition and promote equity of access. The measures might also, in some instances, include regulation.
- The legislation incorporate measures to hold the Australian Government accountable for the interventions it implements to ensure services are available for purchase at the established standards. To achieve this, a body independent of the Minister is to measure the effectiveness of the interventions and report to Parliament and the public.

This fresh approach would provide:

- a strategic framework supporting certainty of service access to consumers and a more predictable environment for providers to invest in infrastructure
- greater simplicity, transparency and clarity to the public on the outcomes they can expect — in terms of what services they should have access to and on what terms
- support for the development of competitive markets by providing for targeted government interventions only where needed
- flexibility for the Government to determine the most effective and efficient way to ensure the required outcomes are achieved, and
- Australian Government accountability to the public, through Parliament, on both the specification of the standards and the effectiveness of the Government's measures in ensuring all people and small businesses are able to purchase services at these standards irrespective of their location within Australia.

Further, the efficient operation of competitive markets and the ability of communities to maximise the benefits from using telecommunications will not be supported without improved information availability and the ongoing development and investment in human capital and skills. In Part 1 of this report, the Committee makes a number of recommendations on these issues. The main themes of these recommendations are:

- encouraging innovative applications access and more effective use of telecommunications in regional areas
- skills development and training for specific purposes relevant to regional communities
- enhanced awareness-raising and understanding of telecommunications capacity and limitations in regional areas, and
- measures to improve the equity of services for disadvantaged groups and people with special requirements.

The Committee believes that prior to the implementation of a new framework for universal access to adequate services, the Australian Government should provide funding support to implement the recommendations set out in Part 1 of this report.

Recommendation 3.1.1:

The Australian Government develop a new framework to provide an assurance of ongoing access to voice, mobile, broadband and payphone services to replace the existing USO legislation. The legislative framework provide for:

- a. The Minister to determine the relevant standards — the Communications Service Standard (CSS). The CSS is to include standards for voice, broadband, mobile phone and payphone services.
 - (i) The voice standard must include internationally recognised voice quality measures.
 - (ii) The broadband standard must be equitable with services delivered by the NBN.
 - (iii) The mobile standard must be for hand-held mobile phones.
 - (iv) The payphone standard must include objective criteria for access to payphones, and in developing this standard consideration needs to be given to whether a standard is needed for public internet access.
- b. The Regional Telecommunications Independent Review Committee to be consulted on proposed changes to the standards.
- c. The Australian Government to develop, publish and implement a 'plan of measures' to ensure that all individuals and all small businesses can purchase services that meet the CSS, wherever they live or work in Australia, on an equitable basis.
- d. An independent body, not subject to Ministerial direction, be required to conduct an audit at least every three years on the effectiveness of the Australian Government's 'plan of measures' in ensuring communications services meeting the standards are available to be purchased by all, and this audit be tabled in Parliament.

As a consequence, the Committee understands that implementation is likely to take several years. The Committee recognises that this recommendation involves substantial and complex changes to existing regulatory arrangements which will be significantly influenced by the NBN. Nevertheless, if the CSS is to provide sufficient protection for the people in the 'Extended Zones', the Minister will need to have in place appropriate arrangements to ensure that the businesses and individuals in these zones continue to have access to adequate services for the period between the conclusion of the Extended Zones Agreement with Telstra on 31 May 2011 and the introduction of the CSS.

Recommendation 3.1.2:

The new framework is to be in place on or before 30 June 2013.

Recommendation 3.1.3:

The Australian Government implement suitable arrangements ensuring people in the Extended Zones are able to continue to access services on at least the same conditions applying under the Extended Zones Agreement from the time that Agreement ends until the implementation of the CSS.

One of the problems with the USO has been the need to overlay additional regulatory measures to address shortcomings in service delivery. This has led to:

- poor consumer understanding
- a lack of clarity and difficulty in enforcement, and
- excessive compliance costs for providers.

To minimise these problems, the Committee considers that the CSS will need to include the following variables for each service type:

- voice services — voice quality, price and connectivity
- broadband (always-on internet) — upload speeds, download speeds, latency, jitter and volume limits, and price
- mobile communications — the characteristics of the consumer device and price
- payphone — entitlement criteria, price, and processes for locating, removing and relocating services, and
- reliability, and connection and repair times for all of the above service types.

Individuals and businesses also conduct business and social activities on coastal waters. This includes a number of marine business activities (including fishing), as well as recreational and life-style activities involving boating. The Committee has heard and noted that the communications needs of these groups are significant, and considers that the definition of 'live and work' must include Australian territorial waters.

Current regulatory arrangements applying to the supply of the universal voice service have particular provisions dealing with the supply of equivalent services to people with disabilities¹⁰ and a requirement on the universal service provider to offer pricing packages for low income household consumers.¹¹ The Committee notes the importance of these measures and expects that, in developing new legislative arrangements, the

Australian Government will ensure that appropriate provision is made to maintain outcomes for these groups.

Structured in the way proposed, the minimum standards would incorporate many of the existing consumer protections in legislation and licence conditions. The Committee in particular draws the Australian Government's attention to the circumstances of the individuals and businesses in the 'Extended Zones' and of the potential for the CSS to ensure that they have ongoing access to adequate services. As noted above, the implementation of the CSS needs to recognise the conclusion of the Extended Zone Agreement with Telstra in 2011.

Given the substantial changes proposed, the Committee expects that the Australian Government would undertake further consultations with the public and industry on the details, including appropriate transition arrangements to ensure consumers are protected during the changes. The Committee understands the extent and complicated nature of the proposal, particularly with the added complexity of the roll-out of the NBN, will necessitate an implementation period of several years.

By incorporating and/or consolidating the various overlay regulations, the recommended approach would also provide an opportunity to rationalise current regulatory arrangements and remove the regulatory burden for industry while maintaining or improving service delivery to consumers in regional rural and remote Australia. This may extend to the current industry tax to fund the existing USO. However, the Committee notes that it is possible to retain the industry specific tax to fund interventions that may be necessary to ensure services meet appropriate Communications Service Standards.

CONSUMERS' RIGHTS

The Committee has previously noted that one of the failings of the current arrangements is that the USO is imposed on Telstra — consumers have no 'right' and certainly have no particular grievance process if they request a USO service and it is refused (other than to complain to ACMA). While the current USO framework is based on the concept that there will always be a carrier of last resort that consumers can obtain a service from, this is illusory in practice. The universal service provider can always legally refuse to supply a request for a service on the basis that supplying the service would require it to take steps which are not reasonable.¹²

The proposed CSS arrangements would effectively shift the legislative obligation from a telephone company, Telstra (as it is today), to the Minister. The Minister would be required to implement measures to ensure the services are available. Without any other measures, this would leave consumers in the same position as before — that is, without recourse in the event that the market and the Australian Government's measures fail to guarantee access in accordance with the standards.

The Committee considered whether a consumer should be entitled to damages or a compensation payment from the Australian Government if they are unable to get a service that meets the appropriate standard. In the light of experience with the CSG, the Committee considers that this is not appropriate at this time.

The Committee believes that it would be more effective to make public, through the Australian Parliament, instances where consumers are unable to get a service meeting the standard.

The Committee considers that this issue may be satisfactorily addressed by providing a mechanism to address and resolve service inadequacy issues that may arise under the new framework. Such a mechanism should be simple for individuals and small businesses to use. At a minimum the scheme should provide for:

- a. If consumers have been unable to obtain access to services that meet the standards, then the prospective consumer should receive advice of services available. If no services are available, for the Minister to be informed.
- b. If individual instances of failure to access a service that meets the standards are found and not resolved, then a report is to be prepared and published annually detailing those instances.
- c. If a consumer is refused access to a subsidy or other schemes which are part of the Australian Government's 'implementation plan' for the CSS and the consumer disputes that decision, then that decision should be reviewable.

The Committee believes that such a complaints process could be done through changes to the Telecommunications Industry Ombudsman (TIO) scheme. Extending the jurisdiction of the TIO to allow this to occur would take the TIO scheme beyond an industry dispute resolution service and involve it in inquiring into government actions and programs. The Committee notes that the TIO already has a role in legislation regarding consumer entitlements under the Customer Service Guarantee in issuing evidentiary certificates¹³, however, it may be that the TIO scheme may need to become a government-industry body rather than a just an industry body.

The role the Committee considers that the TIO would have in relation to government action would be similar to other government ombudsman arrangements, that is the power to inquire and if necessary report directly to Parliament.

Recommendation 3.1.4:

The Australian Government provide a mechanism, simple for individuals and small businesses to use, to address and resolve service inadequacy issues that may arise under the new framework. At a minimum the mechanism provide that:

- a. If consumers have been unable to obtain access to services that meet the standards, then the prospective consumer should receive advice of services available. If no services are available, for the Minister to be informed.
- b. If individual instances of failure to access a service that meets the standards are found and not resolved, then a report detailing those instances is to be prepared and published annually and within the first quarter of the following year.
- c. If a consumer is refused access to a subsidy or other schemes that are part of the Australian Government's 'implementation plan' for the CSS, and the consumer disputes that decision, then that decision should be reviewable

Recommendation 3.1.5:

The Australian Government restructure the TIO scheme to provide for the TIO to appropriately undertake the consumer complaints mechanisms for the new framework.

IMPLEMENTATION OF THE CSS

Deploying new infrastructure has the potential to provide significant improvements to telecommunications services, competition and choice in regional Australia. It also has the potential to support the introduction of the CSS with little further cost to government. Making the necessary investments now to improve infrastructure and service availability will reduce the ongoing burden for the Australian Government in supporting the CSS. If users can access services of adequate standards, further Government action under the CSS will not be needed.

The outcome of the NBN procurement process is expected to improve the viability of deploying telecommunications infrastructure for communities not served by the NBN.

The extent of this improvement will not be known until the NBN contract is finalised. Once the outcome is known, the identification of the infrastructure necessary to support the telecommunication service needs for these communities will require further investigation.

The commercial incentives for infrastructure investment and deployment will also be greatest where the infrastructure supports the delivery of services in demand. There is very little chance of sustainable long-term outcomes if infrastructure like backhaul is built without the potential for the provider to receive revenues from users as soon as possible after it is rolled out.

Broadband services are the most compelling services that will drive investment in infrastructure. The NBN benchmark of 12Mbps for download speeds will need to be matched in non-NBN coverage areas. Reflecting the diverse nature of regional communities and the range of economic activities occurring in them, communities will have their own priorities for improving services and the infrastructure needed to support these services.

In the period leading up to the full introduction of the CSS, the Australian Government should provide strong incentives for investment in infrastructure, particularly backhaul to support high speed broadband, and improved voice and mobile services. This should be in areas where there are enough users to support viable ongoing services, and particularly in the Extended Zones.

As noted in Chapter 2.1 — Mobile communication, the deployment of backhaul infrastructure may reduce costs of the extension of mobile coverage if the price of backhaul services fall. Mobile carriers often cite backhaul costs as a barrier to entry in more remote communities.

As noted in Chapter 2.3 — Voice telephony services, the deployment of improved infrastructure in areas beyond the NBN footprint also opens the potential for the introduction of voice service platforms which could make for long term improvements to the reliability and functionality of these services.

The Committee acknowledges that not all end users will have access to adequate services at a level that would allow for the removal of ongoing government support across the voice, broadband, mobile and payphone service spectrum prior to the introduction of the CSS. It believes that priorities for the extension of telecommunication services should be based on a consideration of the benefits (social and economic) against the net cost of provision. In determining potential infrastructure upgrade locations, the Committee believes the Australian Government should use the following priorities and criteria.

Table 3.1.1 Priority and criteria for further network extensions

Priority	Criterion	Description
1	'service towns'	Use a score based on the presence of significant social infrastructure in the town. For example, a school, health facility, police station, council chambers or depot, or major commercial activity.
2	Significant industries and the number of 'potential users' (populations)	Use a score based on the presence of significant rural industries in the area and potential users. 'Potential users' includes an assessment of itinerant and seasonal changes and travellers on roads. Rural industries include agriculture, natural resource management, tourism and transport.
3	Improve existing coverage opportunities	Use a score based on the potential benefits from increasing the number of people who can effectively access the network compared to the net cost of improving coverage.

As identified in Chapter 2.5 — Backhaul, there is a limited amount of information available to governments in relation to existing infrastructure. Once the NBN outcome is known, it will also be possible to model the demands of users more specifically in the areas not served by the NBN. Of course, it is possible that developments including the NBN may mean that no additional expenditure is required by government.

The Committee therefore considers essential that a market testing device such as a request for information be undertaken after the outcome of the NBN process is known. This market testing needs to be informed by:

- accurate data on the availability of existing infrastructure, and
- the specification of the relevant standards, that is, the CSS.

These processes would provide the necessary information, (i.e. costs, service parameters and potential usage) for developing appropriate policy responses from government. An holistic approach is required which focuses on those areas unlikely to be served by the NBN or terrestrial mobile coverage. The quicker this information is obtained, the greater chance the Australian Government will have of successfully ensuring the required services are available to regional communities and that the necessary infrastructure is in place to support the delivery of adequate services under the CSS. The request for information must be issued no later than three months after the successful bidder for the NBN has been announced.

The Committee is aware that the Australian Government has allocated funding to implement a response to the recommendations of this Review. The Committee believes that many communities not served by the NBN will be able to develop a case for the type of infrastructure deployment outlined above and that, in aggregate, these cases may exceed available funding.

If this is the case, then the Australian Government will be faced with the choice of using more funding in the short term or allocating more money in an ongoing basis under the CSS.

As outlined in Part 1, the Committee has made a number of recommendations which will make a call on funding. The Committee considers that a figure of 10–15 per cent of the available funding may be an appropriate starting point. Beyond this, investment in the maintenance and better use of existing services, the Committee recommends that funding be allocated to implementation of the new framework.

The Committee understands that funding for the new framework is available from the Australian Government 2008–09 Budget, and that further funding may be available from the interest accruing on the Communications Fund.

Recommendation 3.1.6:

The Australian Government provide adequate funding to ensure the outcomes of the recommendations in Part One are achieved.

Recommendation 3.1.7:

The Australian Government, in the lead up to the introduction and implementation of the CSS:

- a.
 - (i) obtain the necessary information on infrastructure needed to support services to be available under the CSS
 - (ii) engage in a consultative process to develop the initial standards for the CSS as defined in recommendation 3.1.1(a)
 - (iii) obtain information on the likely utilisation or demand for infrastructure, and
 - (iv) obtain estimates of costs
- b. by 30 June 2013, take the necessary action for infrastructure improvements to occur in regional Australia to support the CSS with a holistic approach; and that any expenditure of funds is in accordance with the priorities and criteria set out in table 3.1.1, and

- c. ensures the process outlined in (a) begins within three months of the Government's response to this Report, or within three months from the date the NBN contract has been awarded, whichever is the earlier.

SUMMARY OF FINDINGS

Finding 3.1.1:

The objective of ensuring communication services are available across Australia remains valid and should continue into the future.

Finding 3.1.2:

Australian Government involvement currently supports access to voice services, internet and mobile services. Further, the lack of certainty inherent in some programs inhibits both consumer take-up and provider investment.

Finding 3.1.3:

The current arrangements for the USO are no longer working effectively. There is a need to provide greater certainty over future access to mobile, broadband and voice services. The USO regime is not suitable for extension to these services. A new framework is needed.

Finding 3.1.4:

Technological developments and the NBN provide an opportunity to review consumer protections.

SUMMARY OF RECOMMENDATIONS

Recommendation 3.1.1:

The Australian Government develop a new framework to provide an assurance of ongoing access to voice, mobile, broadband and payphone services to replace the existing USO legislation. The legislative framework provide for:

- a. The Minister to determine the relevant standards — the Communications Service Standard (CSS). The CSS is to include standards for voice, broadband, mobile phone and payphone services.
The voice standard must include internationally recognised voice quality measures.
The broadband standard must be equitable with services delivered by the NBN.
The mobile standard must be for hand-held mobile phones.
The payphone standard must include objective criteria for access to payphones, and in developing this standard consideration needs to be given to whether a standard is needed for public internet access.
- b. The Regional Telecommunications Independent Review Committee to be consulted on proposed changes to the standards.
- c. The Australian Government to develop, publish and implement a 'plan of measures' to ensure that all individuals and all small businesses can purchase services that meet the CSS, wherever they live or work in Australia, on an equitable basis.
- d. An independent body, not subject to Ministerial direction, be required to conduct an audit at least every three years on the effectiveness of the Australian Government's 'plan of measures' in ensuring communications services meeting the standards are available to be purchased by all, and this audit be tabled in Parliament.

Recommendation 3.1.2:

The new framework is to be in place on or before 30 June 2013.

Recommendation 3.1.3:

The Australian Government implement suitable arrangements ensuring people in the Extended Zones are able to continue to access services on at least the same conditions applying under the Extended Zones Agreement from the time that Agreement ends until the implementation of the CSS.

Recommendation 3.1.4:

The Australian Government provide a mechanism, simple for individuals and small businesses to use, to address and resolve service inadequacy issues that may arise under the new framework. At a minimum the mechanism provide that:

- a. If consumers have been unable to obtain access to services that meet the standards, then the prospective consumer should receive advice of services available. If no services are available, for the Minister to be informed.
- b. If individual instances of failure to access a service that meets the standards are found and not resolved, then a report detailing those instances is to be prepared and published annually and within the first quarter of the following year.
- c. If a consumer is refused access to a subsidy or other schemes that are part of the Australian Government's 'implementation plan' for the CSS, and the consumer disputes that decision, then that decision should be reviewable

Recommendation 3.1.5:

The Australian Government restructure the TIO scheme to provide for the TIO to appropriately undertake the consumer complaints mechanisms for the new framework.

Recommendation 3.1.6:

The Australian Government provide adequate funding to ensure the outcomes of the recommendations in Part One are achieved.

Recommendation 3.1.7:

The Australian Government in the lead up to the introduction and implementation of the CSS:

- a.
 - (i) obtain the necessary information on infrastructure needed to support services to be available under the CSS
 - (ii) engage in a consultative process to develop the initial standards for the CSS as defined in recommendation 3.1.1(a)
 - (iii) obtain information on the likely utilisation or demand for infrastructure, and
 - (iv) obtain estimates of costs
- b. by 30 June 2013, take the necessary action for infrastructure improvements to occur in regional Australia to support the CSS with a holistic approach; and that any expenditure of funds is in accordance with the priorities and criteria set out in table 3.1.1, and
- c. ensures the process outlined in (a) begins within three months of the Government's response to this Report, or within three months from the date the NBN contract has been awarded, whichever is the earlier.

Endnotes

- 1 Department of Communications, Information Technology and the Arts, *Review of the Standard Telephone Service*, December 1996, p.11.
- 2 Australian Communications and Media Authority, *Digital Data Inquiry*, 15 August 1998.
- 3 NSW Farmers' Association National Broadband Network regulatory submission, www.dbcde.gov.au/communications_for_business/funding_programs_and_support/request_for_submissions_on_regulatory_issues/submissions
- 4 E-Applications Special Interest Group, National Broadband Network regulatory submission, www.dbcde.gov.au/communications_for_business/funding_programs_and_support/request_for_submissions_on_regulatory_issues/submissions
- 5 Senator the Hon Stephen Conroy, Minister for Broadband, Communications and the Digital Economy, *Government invites National Broadband Network proposals*, media release, 11 April 2008.
- 6 Auditor-General, Audit Report No.36 2006–07, Performance Audit, *Management of High Bandwidth Incentive Scheme and Broadband Connect Stage 1*.
- 7 Australian Communications and Media Authority, submission dated 6 June 2008, p.2.
- 8 RTI, *Connecting regional Australia: the report of the Regional Telecommunication Inquiry*, November 2002, recommendation 2.2 and p.263.
- 9 RTI, *Connecting regional Australia: the report of the Regional Telecommunication Inquiry*, November 2002, p.263.
- 10 See for example, sub-section 9E(1)(a)(ii), 9E(1)(b)(ii) & 9E(2) of the *Telecommunications (Consumer Protection and Service Standards) Act 1999*.
- 11 See clause 22 of the Carrier Licence Conditions (Telstra Corporation Limited) Declaration 1997 which requires Telstra to have arrangements for low income customers.
- 12 See subsection 12C(1) of the *Telecommunications (Consumer Protection and Service Standards) Act 1999*.
- 13 See section 119 of the *Telecommunications (Consumer Protection and Service Standards) Act 1999*.



Over the Northern Territory. 17 April 2008.

CHAPTER 3.2 RTIRC — FUTURE ARRANGEMENTS

The Regional Telecommunications Independent Review Committee is a statutory committee with the function to review the adequacy of telecommunications services in regional Australia as set out in Part 9B of the *Telecommunications (Consumer Protection and Service Standards) Act 1999*.

This Review commenced in August 2007 and reported in September 2008. The Committee deferred its consultation program for a period in accordance with the Caretaker Conventions during the 2007 Federal Election.

The next report from the Committee is due by late 2012. The legislation provides for the next report to be completed within three years after the Australian Government's response to this first report. The Government is required to table its response within six months of receiving the Report.

Under the legislation, the terms of the current Committee members will expire mid-way through the next review process. There may be merit in the Minister considering how continuity might be provided to assist the efficiency and effectiveness of the next review process.

The complexities of the NBN have made it difficult for this Committee to make specific recommendation in some areas relating to the future adequacy of significant telecommunications services. Accordingly, the Committee intends to meet after the awarding of the NBN contract to consider the impact of the implementation of the NBN on matters relating to the adequacy of services in regional parts of Australia.

The Committee recommends in this report very significant changes to legislation underpinning the concept of universal telecommunications services. Implementation of these recommendations will involve considerable work and consultation by the Australian Government. The Committee would welcome the opportunity to provide further advice to the Minister on this.

The Committee notes that in some areas there remains insufficient and/or unreliable information. The Committee proposes to meet with Departmental officers and officers of other agencies at least bi-annually to ensure information requests for the next Review can be better achieved.

The Committee has conducted a series of public meetings program between February and May 2008 in 20 regional locations across Australia. This process has provided invaluable information and perspective to inform its assessment of the adequacy of services in regional areas.

The Committee has appreciated the support it has received from the Department of Broadband, Communications and the Digital Economy and associated agencies. However, the consideration of the significance of services as well as the benefits that will follow from addressing inadequacy of telecommunications services would benefit from a wider engagement with all levels of government on service delivery in regional areas, and a refocusing of resources on providing specific information requirements that may need to be sourced from industry and elsewhere.

RECOMMENDATIONS

Recommendation 3.2.1:

The Australian Government provide continuing support to the Committee to:

- a. enable it to effectively conduct its review processes
- b. consult the Government on the implementation of the Government's response to the Committee's previous report, and
- c. meet at least bi-annually with the Department and other agencies to ensure information requirements for the next review are achieved.



APPENDICES





*Cloncurry public meeting, Qld.
Mark Needham, Bruce Scott and
Dr. Bill Glasson.
8 April 2008.*



*Daly River public meeting, NT.
16 April 2008.*



*Tasmania meetings. Mark Dunstone
(DBCDE), Lucille Wong (DBCDE)
and Josephine Stone.
19 February 2008.*



*Alice Springs public meeting, NT.
18 April 2008.*

APPENDIX A

SUBMISSIONS SUMMARY

A discussion paper was released in September 2007 calling for submissions to the Review. The original closing date for submissions was 7 December 2007, prior to consultation. However, the Committee advised all parties that it would continue to receive submissions and continue to listen and communicate right up until the 'ink is still wet' on the report¹.

To inform people about the submission process and the Review, a free call 1 800 number and a dedicated website were established. The majority of calls were from people seeking information packs and details of the location and timing of the public meeting program. A total of 223 submissions were received by close of business 30 July 2008.

The majority of submissions came from NSW and Victoria, followed by Queensland, Western Australia, South Australia and Tasmania. By category, submissions were received from a broad cross section of the community, including individuals (40 per cent of the total) followed by government, industry, carriers and community organisations.

The submissions raised a number of issues, with the main two being the extent of mobile phone coverage including a number of Telstra CDMA to Next G transition concerns, and the availability and pricing of broadband.

The Committee's considerations were also informed by the information that it received in response to the Australian Government's call for submissions on policy and funding initiatives for enhanced broadband services in rural and remote areas and on regulatory issues associated with the National Broadband Network.

The Committee found that the submissions were well-considered and a valuable contribution to its consideration of the issues relating to the adequacy of telecommunications services in regional, rural and remote parts of Australia.

Figure A.1: Submissions by State and Territory



Figure A.2: Submissions around Australia



Figure A.3: Submissions by category

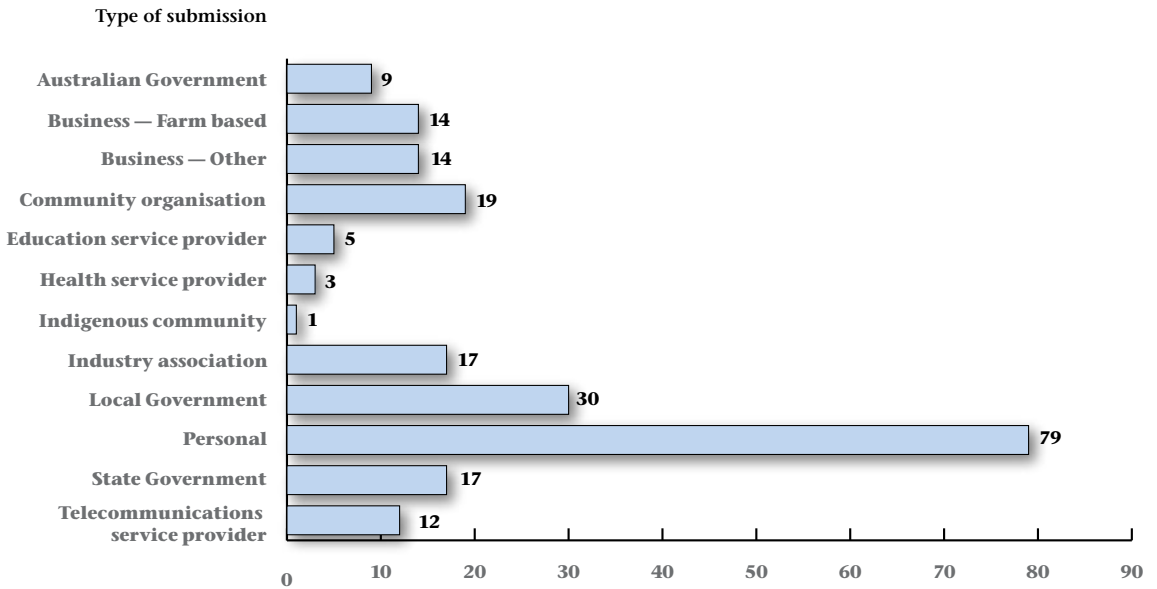
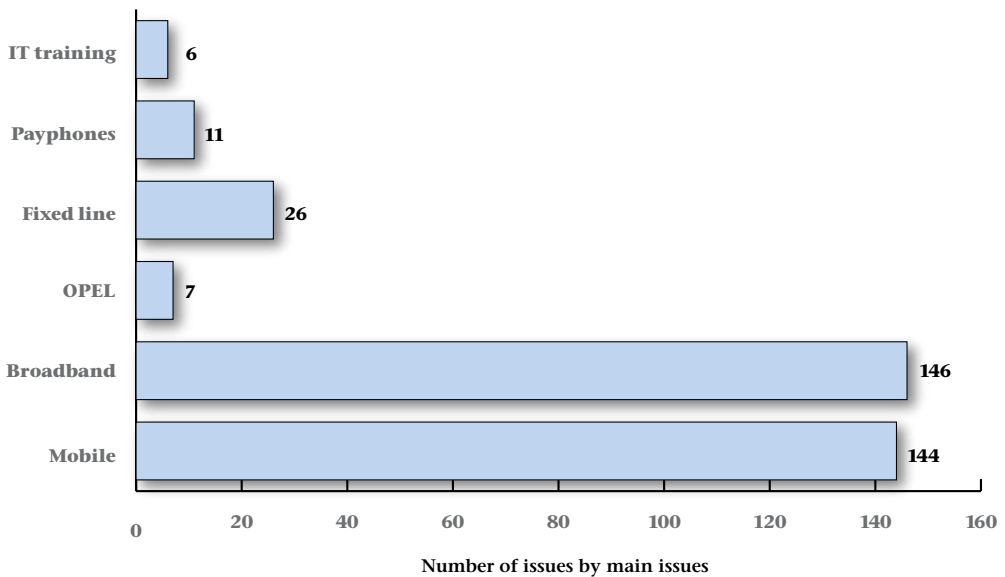


Figure A.4: Submissions by main issues



SUBMISSIONS RECEIVED BY THE COMMITTEE

Of the 223 submissions received at close of business 30 July 2008, 12 were classified as confidential by the submitter, and are identified in the alphabetical list below.

Adelaide Hills Regional Development Board	SA
Agforce Queensland	QLD
Alcatel-Lucent Australasia	VIC
Angus Knight Group (confidential)	QLD
Appledore, Kaye	VIC
Ardwick Homestead Farmstay	VIC
Austar	NSW
Australian Bureau of Statistics	ACT
Australian ICT in Education Committee	ACT
Australian Institute of Agricultural Science and Technology	SA
Australian Library and Information Association	ACT
Australian Local Government Association	ACT
Australian Private Networks	VIC
Australian Weaving Mills Pty. Ltd.	TAS
Axia NetMedia Corporation	Canada
Bailey, Ian and Loraine	QLD
Baines, Claire	QLD
Bancroft, Ian & Libby	SA
Barber, Helen	VIC
Barcoo & Diamantina Shires	QLD
Barcoo Shire Council	QLD
Bayer Crop Science Pty. Ltd.	VIC
Beresford, Marcus	SA
Bloomfield, J and Maclean, I	NT
Bright, Sally and Tony	NSW
Brisbane School of Distance Education	QLD
Broadband Wireless	TAS
BroadbandNet	WA
Broken Hill City Council	NSW
Buckley, Adrian	QLD
Burley, Nathan	SA
Bushvision Inc.	SA
Bush Heritage Australia	VIC
Carpentaria Shire Council	QLD
Catholic Women's League Australia	TAS
Central NSW Councils	NSW
Central West QLD Remote Area Planning & Development Board	QLD
Centre for Appropriate Technology	NT
Chamber of Commerce and Industry WA	WA
Clarke, Graeme	NT
Clarke, Margaret	NSW
Clayton, Lyall	NSW

Close, Sue	VIC
Combined Pensioners Association of Victoria	VIC
Communications, Electrical and Plumbing Union	NSW
Consumers Telecommunications Network	NSW
Cooper's Creek Catchment Committee	QLD
Copping, Lorraine	SA
Council of Australian University Librarians	ACT
Cross, Marjorie	NSW
CSIRO	NSW
CTC @ Trundle	NSW
Cunningham, Carmel	NSW
Davis, M & R	NSW
Deafness Forum of Australia	ACT
Department of Infrastructure, Transport, Regional Development and Local Government	ACT
Desert Knowledge Cooperative Research Centre	NT
Dingo Enterprises	WA
District Council of Grant	SA
Dohnt, Ann	SA
Draper, Louise	WA
Dunstan, Sue	VIC
Elders Telecommunications (confidential)	SA
Eyre Regional Development Board	SA
Fickling, Carol	NSW
Garard, GL & GA	WA
Gascoyne Development Commission	WA
Gelantipy District Bush Nursing Centre	VIC
Gibbins, Gary and Rita	NSW
Gippsland Area Consultative Committee	VIC
Gorton, Sue	QLD
Graham, Ken & Diane	WA
Great South Coast Economic Development Group of Councils	VIC
Greater Western Area Health Service	NSW
Gregg, John & Janette	VIC
Gulf Savannah Development	QLD
Harrow Bush Nursing Centre	VIC
Hawker MP, David — Federal Member for Wannon	VIC
Hawkins, Andrew	VIC
Health Consumers of Rural and Remote Australia	ACT
Hebbard MP, Tricia — Member of Central Kimberley	WA
High Country Councils Coalition	VIC
Homesat TV East Kimberley	WA
Hopwood, Stuart	WA
Horsham Colour Professional Photographic Processing	VIC
Howard, Damien	NT
Howard, Ian	TAS
Hunter Economic Development Corporation	NSW

Ingram MP, Craig — Member for Gippsland-East	VIC
Isolated Children's Parents Association of Australia	WA
Isolated Children's Parents Association WA	WA
Jack, Pam	VIC
James Cook University	QLD
Jasper, Corrine	NSW
Jennings, Michael	NSW
Jermyn, Richard	NSW
John Murphy & Associates Pty. Ltd.	VIC
Johnstone, Lenore	QLD
Jones, David C.	NSW
KaComm Communications	QLD
Katter MP, Bob — Federal Member of Kennedy	QLD
Keller, Jeff	NSW
Kernke, Wendy	QLD
Lange, Rob	VIC
Langfield, Russell	TAS
Langhorne Creek Wine Industry Council	SA
Latrobe City Council	VIC
LawrieCo Biological Farming	SA
Lesley, Bob & Colston Chris	QLD
Levinge, Peter	VIC
Levings, Rocio (confidential)	VIC
Lewington, Ross (confidential)	NSW
Lightman, Norman	NSW
Limon, Joan	NSW
Lloyd, Derek	WA
Lochert, Lyn	SA
Logan City Council	QLD
Low Rainfall Collaboration Group	SA
Ltyenntye Apurte Health Service	NT
Mahony, Stephen	NT
Mallee Regional Landcare Network	SA
Manuel, Kaye	WA
Marheine, Roy	NSW
Marx, Marion	VIC
Mawson Lakes Development	SA
McFayden, Peter	QLD
McMurtrie, Anna	NSW
McPhee, Neil	NSW
Melton Shire Council	VIC
Mid West Gascoyne Area Consultative Committee	WA
Mitchell, Ross (confidential)	NSW
Mitchell, Stephen	WA
Moore, Malcolm	NSW
Morambro Pastoral	SA

Morgan, Ted	NSW
Motorola	VIC
Mulan Aboriginal Corporation	WA
Municipal Association of Victoria	VIC
Murray, Keith	VIC
Murraylands Regional Development Board (confidential)	SA
Napier, Gail	NSW
Naracoorte Lucindale Council	SA
Narromine Shire Council	NSW
National Ethnic Disability Alliance	NSW
Nerriga Progress and Sporting Association	NSW
NewSat	VIC
North Eastern Wheatbelt Regional Organisations of Councils & Wheatbelt East Regional Organisations of Councils	WA
Northern Inland Regional Development Board	NSW
Northern Rivers Regional Organisation of Councils	NSW
Northern Territory Government	NT
Nowra Toyota	NSW
NSW Government	NSW
NSW Farmers Association	NSW
NSW Farmers Association – Baranald Branch	NSW
Optus (confidential)	NSW
Oranje Tractor Wine	WA
Outback Mission to Seafarers	QLD
Owens-Brownbill, P. James	VIC
Owens-Brownbill, Gary (confidential)	VIC
Pastoralists' Association of West Darling	NSW
Petarob Pty Ltd	NSW
Pilbara Regional Council	WA
Pivotel	QLD
Portland Water Supply and Engineers	VIC
Priestly, Gavin	NSW
Prince, Scott	TAS
Queensland Government	QLD
Raleigh, Jeanne & Royce	VIC
Riverina Regional Library	NSW
Robinson, Sherrilyn	QLD
Rokebrand, TR & RC (confidential)	VIC
Ross, Kathy	VIC
Russell, Michael	SA
Sanders, Graham	QLD
School of Air Committee Governing Council	SA
Scott MP, Bruce — Federal Member for Maranoa	QLD
Shire of Chittering	WA
Shire of Yalgoo	WA
Simms, Rob	NSW

Simpson, Marilyn	VIC
Smith, Nicholas	VIC
South Australian Government	SA
South East Local Government Association	SA
Stephenson, John	TAS
Stewart, Nora (confidential)	NSW
Stonehenge Action Group	QLD
Stony Crossing Action Group (confidential)	NSW
Symonds, Donald	VIC
Tasmanian Farmers and Graziers Association	TAS
Tasmanian Government	TAS
Tasmanian Industry Fishing Council	TAS
Taylor, Alan	QLD
TEDICORE	QLD
Telstra	VIC
Thomson, G & R	VIC
Telecommunications Industry Ombudsman	VIC
Torpey, Cheryl	VIC
Torres Strait Island Regional Council	QLD
Tourism NT	NT
Townsville City Council	QLD
Tubb, Michael	VIC
Tuglow Landcare Inc.	NSW
Tumut Shire Council	NSW
Tweed Shire Council	NSW
Waal, Jan van der	NSW
Walters, Max (confidential)	NSW
Wamboin Community Association	NSW
Waser, Michael	NT
Waters, Andrew	WA
Weaver, Barbara	SA
West Wimmera Shire Council	VIC
Western Australian Government	WA
Western Lands Advisory Council	NSW
White, Alison	VIC
Wilden, Peter	WA
Williamson, Dean & Schriever, Ross	SA
Winchester, Sue	QLD
Windorah Development Board Inc.	QLD
Women With Disabilities Australia	TAS
World Telesport	NSW
Wright, John	VIC
Wright, Loma	NSW
Young, Dick	VIC

1 ABC Central West NSW, Morning show with Janice McGilchrist, transcript, page 8

APPENDIX B

CONSULTATION PROGRAM

The Committee conducted public meetings in 20 locations in regional Australia, as well as stakeholder meetings in all capital cities. Details of the meetings are below.

Location		Date
Western Australia	Perth	4 February
	Port Hedland	5 February
	Albany	5 February
	Kalgoorlie	6 February
	Kununurra	16 April
	Balgo Community	17 April
Tasmania	Launceston	19 February
	Hobart	20 February
Victoria	Bairnsdale	20 February
	Melbourne	21 and 22 February
	Horsham	13 March
	Mildura	13 March
South Australia	Adelaide	11 March
	Naracoorte	12 March
	Whyalla	12 March
Queensland	Cloncurry	8 April
	Richmond	9 April
	Townsville	10 April
	Brisbane	11 April
Northern Territory	Tiwi Islands	14 April
	Darwin	15 April
	Daly River	16 April
	Alice Springs	18 April
New South Wales	Narrabri	5 May
	Broken Hill	7 May
	Parkes	7 May
	Sydney	8 and 9 May

Figure B.1: Consultation program



The stakeholders meetings included representatives from:

- state and territory governments
- peak community organisations
- industry groups, and
- service providers.

Stakeholders from the following organisations attended the meetings:

Location/Date	Organisation
Brisbane 3 October 2007	IPSTAR Australia
Brisbane 4 October 2007	Globalstar Telstra Allegro Networks Optus OPEL Networks Elders Telecommunications
Sydney 19 December 2007	Australian Telecommunications Users Group Consumers Telecommunications Network
Sydney 20 December 2007	Australian Mobile Telecommunications Association Australian Information Industry Association
Perth 4 February 2008	Department of Industry and Resources Department of Health Department of Education and Training Department of Indigenous Affairs NewSat Rio Tinto BHP The Chamber of Minerals & Energy WA Farmers Federation iiNet The Chamber of Commerce and Industry Advanced Consulting and Services Isolated Children's Parents Association St Johns Ambulance Telstra
Hobart 20 February 2008	Department of Premier and Cabinet Department of Health and Human Services Department of Education Department of Economic Development and Tourism Tasmanian Electronic Commerce Centre Tasmanian Local Government Association Tasmanian Fishing Industry Council Tasmanian Abalone Council Tasmanian Rock Lobster Fishing Association Country Women's Association Aurora Energy Telstra
Melbourne 21 February 2008	Multimedia Victoria (Department of Innovation, Industry and Regional Development)

Location/Date	Organisation
Melbourne 22 February 2008	Australian Government Department of Education, Employment and Workplace Relations Mayor of Murrindindi Shire Telecommunication Industry Ombudsman Victorian Farmers Federation Telstra
Adelaide 11 March 2008	Department of Further Education, Employment, Science and Technology Department of Education and Children Services Department of Transport, Energy and Infrastructure Department of Trade and Economic Development TAFE SA StateNet South East Local Government Association Fleurieu Regional Development Board Barossa and Light Regional Development Board Claire Valley Wine Active8 Broadband Anywhere South Australia Farmers Federation Cancer Council South Australia Central and Murray and Mallee Region Local Government Associations Telstra
Brisbane 11 April 2008	Department of Public Works Department of Education, Training and the Arts Department of Tourism, Regional Development and Industry Department of Main Roads Queensland Health Ergon Energy Agforce Logan City Council TEDICORE

Location/Date	Organisation
Darwin 15 April 2008	Department of Corporate and Information Services Department of Business Department of Economic and Regional Development Department of Power and Water Police, Fire and Emergency Services Department of Health and Community Services Department of Employment, Education and Training Department of Families, Housing, Community Services and Indigenous Affairs Chief Minister's Office of Indigenous Policy Northern Territory Indigenous Economic Development Taskforce Northern Territory Emergency Response Taskforce Charles Darwin University Northern Territory Libraries Austral Fisheries Centrelink Telstra
Sydney 8 May 2008	Telstra Australian Private Networks KaComm Pivotel NSW State Government Standing Committee on Broadband
Sydney 9 May 2008	Department of Commerce Department of Health Department of Education and Training Australian Communications and Media Authority Communications, Electrical and Plumbing Union Optus NSW State Government Regional Development Advisory Council Country Women's Association Market Clarity Western Research Institute NSW Farmers Association Rural Affairs Committee Country Telecommunications Office of Rural Affairs University of Canberra
Brisbane 29 May 2008	Terria Angus Knight Group
Canberra 5 June 2008	Chief Minister's Department Australian Local Government Association
Brisbane 23 July 2008	Tasmanian Treasurer, the Hon Michael Aird MLC



Alexandra Gartmann on the tarmac at Daly River, NT. 16 April 2008.



Launch of public meeting program, Perth, WA. Mark Needham, Alexandra Gartmann, Dr. Bill Glasson, Josephine Stone and Bruce Scott. 4 February 2008.

APPENDIX C

MEETINGS OF THE COMMITTEE

During the course of the Review the Committee held 25 meetings. The meetings included a number of presentations and briefings on telecommunications, policy and programs from representatives of the Department of Broadband, Communications and the Digital Economy, the Australian Communications and Media Authority and the Australian Competition and Consumer Commission. The schedule of the meetings is as follows:

Meeting	Date	Location
1	16 August 2007	Canberra
2	30 August 2007	Brisbane
3	11 September 2007	Teleconference
4	3 October 2007	Brisbane
5	26 October 2007	Teleconference
6	14 November 2007	Canberra
7	5 December 2007	Teleconference
8	19–20 December 2007	Sydney
9	22 January 2008	Teleconference
10	4 February 2008	Perth
11	14 February 2008	Teleconference
12	21–22 February 2008	Melbourne
13	11 March 2008	Adelaide
14	20 March 2008	Teleconference
15	11 April 2008	Brisbane
16	15 April 2008	Darwin
17	29 April 2008	Teleconference
18	8–9 May 2008	Sydney
19	15 May 2008	Teleconference
20	29 May 2008	Brisbane
21	5 June 2008	Canberra
22	10–11 July 2008	Brisbane
23	24–26 July 2008	Brisbane
24	13 August 2008	Teleconference
25	23–24 August 2008	Brisbane

Members of the Committee also met during the Review process on an ad hoc basis, as sub-committees on specific tasks, or as otherwise required.



Canberra committee meeting. Mark Needham, Alexandra Gartmann, Dr. Bill Glasson, Josephine Stone and Bruce Scott. 5 June 2008.



Northern Territory meetings. Mark Needham, Bruce Scott, Josephine Stone, Dr. Bill Glasson, Mark Dunstone (DBCDE), Ben Utting (DBCDE), and Alexandra Gartmann. 16 April 2008.

APPENDIX D

COMMITTEE MEMBERSHIP

The Committee comprises chair, Dr Bill Glasson AO, and members Mrs Josephine Stone AM, Councillor Bruce Scott, Ms Alexandra Gartmann and Mr Mark Needham.



Dr Bill Glasson AO

Dr Glasson was born in Winton in far western Queensland and is highly regarded for his contribution to the health of rural and Indigenous Australians. This includes his long and recognised career as an ophthalmologist in both Australia and overseas, and his membership of the Northern Territory Emergency Response Taskforce. Dr Glasson was appointed in 2008 to the Order of Australia for his work on treating infectious eye diseases and performing life-changing cataract operations on Indigenous Australians.

Throughout his career he has been involved with a number of boards and committees on rural and Indigenous eye health and was appointed as the Federal President of the Australian Medical Association from 2003–2005. Dr Glasson has also held various positions on a number of state and Federal medical and health organisations.



Mrs Josephine Stone AM

Mrs Stone was previously recognised with the award of the Member of the Order of Australia for her contribution to the Northern Territory community in fundraising activities over 25 years. This includes her term as Chair of the Red Cross Katherine Flood Appeal in 1998 which raised over \$2 million for that flood ravaged community. Mrs Stone has held various positions in a number of charitable organisations in Alice Springs and Darwin as well as the Darwin Private Hospital Advisory Board and the Territory's Women's Advisory Committee. Mrs Stone is a lawyer who has worked both in private practice and public institutions.



Councillor Bruce Scott

Cr Scott owns a cattle station in the central west Queensland shire of Barcoo and is well regarded for his contribution to regional activities in Queensland. This includes his work as a Councillor for Barcoo Shire in Queensland since 1994, and in his current office of Mayor which he has held since 2000.

He has taken part in a number of state government working groups and committees and is a current Director of the Remote Area Planning and Development Board. Cr Scott was nominated for appointment to the Committee by the Remote Area Planning and Development Board to fulfil the requirement of the *Telecommunications (Consumer Protection and Service Standards) Act 1999* for at least one nominee from an organisation that represents the interests of people, or bodies, in regional, rural and remote parts of Australia.



Ms Alexandra Gartmann

Ms Gartmann is well regarded for her contribution to agriculture in Australia and overseas. This includes her widely recognised career as an agriculturalist in both regional Australia and overseas and her current position as Chief Executive Office of Birchip Cropping Group in Victoria — a non-profit association that develops and implements agricultural projects for the Australian Government and state governments.

Ms Gartmann was appointed to the Regional Women’s Advisory Committee in 2006 and has held various positions on a number of state and federal boards and committees.



Mr Mark Needham

Mr Needham has a long history dealing with regional and telecommunications issues in Australia and is well regarded for his contributions in this area.

He is a strong advocate of equitable, efficient telecommunication services for all Australians and a competitive market that can deliver sustainable outcomes for rural and regional Australia.

Both his extensive period with farmer representative organisations and previous appointments to a range of Government advisory boards and committees has provided him the opportunity to influence telecommunications and other regional policy outcomes.

Mr Needham has been instrumental in ensuring Australians in regional, rural and remote areas have equitable access to telecommunications and has been involved in establishing a number of initiatives to enable this.

APPENDIX E

ACRONYMS

AARNet	Australia's Academic and Research Network
ABG	Australian Broadband Guarantee
ABS	Australian Bureau of Statistics
ACA	Australia Communications Authority (ACMA's predecessor)
ACCC	Australian Competition and Consumer Commission
ACMA	Australian Communications and Media Authority
ADSL	Asymmetrical Digital Subscriber Line
AICTEC	Australian Information and Communications Technology in Education Committee
AMPS	Advanced Mobile Phone System
APEC	Asia Pacific Economic Cooperation
ASGC	Australian Standard Geographical Classification
BIA	Backing Indigenous Ability
CAN	Customer Access Network
CB UHF	Citizens' Band Ultra High Frequency
CDMA	Code-division multiple access
CDMA WLL	Code-division multiple access wireless local loop
COAG	Council of Australian Governments
CSG	Customer Service Guarantee
CSIRO	Commonwealth Scientific and Industrial Research Organisation
CSS	Communications Services Standard
CTN	Consumers' Telecommunications Network
DAB	Demand Aggregation Brokers
DBCDE	Department of Broadband, Communications and the Digital Economy
DCITA	Department of Communications, Information Technology and the Arts
DRCS	Digital Radio Concentrator System
DSL	Digital subscriber line
DSLAM	Digital Subscriber Line Access Multiplexer
e-ASIG	e-Applications Special Interest Group
ESO	Emergency Service Organisation
FTTH	Fibre to the home
FTTP	Fibre to the premises
FTTN	Fibre to the node
GSM	Global Service for Mobile

HiBIS	Higher Bandwidth Incentive Scheme
HFC	Hybrid Fibre Coaxial
HFCTP	Hybrid Fibre Coaxial Transfer Protocol
HCRCS	High Capacity Radio Concentrator System
HSDPA	High Speed Digital Packet Access
IEN	Inter-Exchange Network
ICT	Information and communications technology
IP	Internet protocol
ISDN	Integrated Services Digital Network
ISP	Internet service provider
IT	Information Technology
kbps	A thousand 'bits' per second. A 'bit' is single unit of binary information, either a 0 or a 1. This unit is used to measure transmission speeds.
LCS	Local Carriage Service
LPP	Local Presence Plan
MB	A million 'bytes'. A 'byte' is a unit of binary information comprising 8 bits. Megabytes are used to measure an amount of information, for example, download allowances.
Mbps	A million 'bits' per second. See also kbps.
MHz	Megahertz
MPHS	Multi Purpose Household Survey
MSD	Mass Service Disruption
NBN	National Broadband Network
NGWL	Next G wireless link
NRF	Network Reliability Framework
NTERT	Northern Territory Emergency Response Taskforce
NTN	Networking the Nation
OCC	Online and Communications Council
OECD	Organisation for Economic Co-operation and Development
OFCOM	Office of Communications (UK)
OTC	Overseas Telecommunications Commission
PMG	Post Master General
POPS	Points of Presence
POTS	Plain Old Telephone Service
PSTN	Public Switched Telephone Network
PSTN O/T	PSTN originating and terminating access services
RIC	Remote Indigenous Community
RFID	Radio frequency identification
RTI	Regional Telecommunication Inquiry 2002

RTIRC	Regional Telecommunications Independent Review Committee
RTOs	Registered Training Organisations
SME	Small to medium sized enterprises
SMP	Standard Marketing Plan
SMS	Short Message Service
STD	Subscriber Trunk Dialling
STS	Standard Telephone Service
TAFE	Technical and Further Education
TCW	Telstra Country Wide
TIO	Telecommunications Industry Ombudsman
TSI	Telecommunications Service Inquiry
TPA	<i>Trade Practices Act 1974</i>
ULLS	Unbundled Local Loop Service
USO	Universal Service Obligation
UTM	Unified Threat Management service
VDSL	Very High Speed digital Subscriber Line (can be written VHDSL)
VOIP	Voice Over Internet Protocol
VTE	Vocational and Technical Education

GLOSSARY

Asymmetrical Digital Subscriber Line (ADSL)

A data communications technology that enables faster data transmission over copper telephone lines than a conventional modem can provide. The asymmetric nature of the connection means that the downstream speed (from an external point to your internet connection) is faster than the upstream speed (from your internet connection out to the rest of the internet).

Backhaul

The process of transmitting data from multiple points to a central telecommunications backbone.

Bandwidth

The rate at which data may be transmitted through a telecommunications system. Bandwidth is defined in bits per second (e.g. 256kbps).

Customer Access Networks

The infrastructure that connects businesses and households to the nearest exchange via either fixed line or wireless connections.

Dark fibre

Dark fibre is optical fibre infrastructure that is currently in place but is not being used. Optical fibre conveys information in the form of light pulses so the 'dark' means no light pulses are being sent. Dark fibre can refer to infrastructure that is in place but not yet ready to use.

Dial up

Internet access involves a modem-to-modem connection across telephone lines between the user and the ISP. The ISP then routes the connection to the internet. Unlike broadband access, dial-up access is not always on, because either the user or the ISP terminates the connection. The maximum theoretical connection speed is 56kbps.

Extended Zones

Approximately 80 per cent of Australia's most remote areas were not provided with an untimed local call to adjacent exchange areas as part of the 1997 telecommunications legislation. An agreement between the Commonwealth and Telstra in 2001 provides access to untimed local calls using Telstra services, untimed internet access and other services to Extended Zones. Under that agreement the Commonwealth pays Telstra \$150 million. The agreement operates for 10 years.

Latency

The amount of time it takes a single piece of data to travel from source to destination. Therefore, the greater the distance between the originating and terminating points of a transmission, the greater the latency. Together, latency and bandwidth define the speed and capacity of a network.

Roaming

The process by which a wireless device can range between different providers' mobile towers without losing connectivity.

Spectrum

Spectrum is the distribution of radio communications wavelengths and frequencies. In the context of broadband spectrum allowance, this refers to the number and size of frequencies allowed for broadband services from the total spectrum available.

3G

The abbreviated descriptor commonly used in relation to third-generation mobile telephone technology. The services associated with 3G provide the ability to transfer both voice data (a telephone call) and non-voice data (such as downloading information, exchanging email, and instant messaging). Video telephony is often used as the flagship application for 3G.

Telemetry

The use of telecommunications for automatically indicating or recording measurements at a distance from the measuring instrument.

VOIP (Voice Over Internet Protocol)

The routing of voice conversations over the internet or through any other IP-based network by encoding the voice transmission into IP packets for transmission.

WiMax

Wireless Interoperability for Microwave Access.



*Adelaide stakeholder meeting.
11 March 2008.*



*Josephine Stone in Wyalla, SA.
12 March 2008.*



*Wyalla public meeting, SA.
12 March 2008.*



*Daly River meetings, NT. Joye Maddison,
Alexandra Gartmann and Mark Needham.
16 April 2008.*

APPENDIX F — TELECOMMUNICATIONS REGULATION

This Appendix provides an overview of current telecommunications regulation and its genesis. The regulatory framework has been subject to a significant amount of change over the last two decades which makes a discussion of the current state somewhat complex.

The Appendix takes the approach of first providing a historical overview leading to the regulatory structures introduced in 1997, and this is followed by a summary of a number of inquiries that have occurred since that date and the legislative amendments that have occurred. It concludes with a discussion of the various elements of the regulatory structure, particularly legislation and institutions.

HISTORICAL OVERVIEW LEADING TO 1997 REFORMS

Federation to 1988

Post and telecommunications service provision is one of the listed Commonwealth powers in the Constitution. However, Joseph Cook (Postmaster-General of New South Wales 1894–1898 and Prime Minister of Australia 1913–1914) noted that although it had always been assumed that the post office should be taken over by the Commonwealth he *had not heard a single effective argument in favour of doing so*.¹ The history of the construction of the Overland Telegraph and its role in linking Australia (and ultimately New Zealand) to Europe and the United Kingdom showed the need for at least international communications to be co-ordinated across the colonies. There was some discussion leading up to federation that the Commonwealth power over ‘postal, telegraphic, telephonic and other like services’ be limited to such services outside the Commonwealth (that is international services), but this was not to be.² The international aspect explains why these services were included as a Commonwealth power, but others like railways were not.

The operation of the post office was subject to a Royal Commission in 1910 which heard arguments about some of the issues that continued to plague Australian Governments for the whole century. These included proposals by the Director-General that the Post Office be established as a Commission, the lack of capital investment in services (then due to vertical fiscal imbalance running the other way), and finally the pricing of old versus new services (though then it was about not dropping the price of a long distance telephone call to avoid damaging the telegraph business).

Despite the reasons for the creation of the Federal power, only domestic telecommunications services were provided directly by Australian Government until 1946 when the assets of Amalgamated Wireless Australasia Limited (AWA) and Cable & Wireless were nationalised to form the Overseas Telecommunications Commission (OTC).

There was a major change in 1959 when the Post Office was required to become self-funding. Any advances from consolidated revenue after that point were made by way of loans to the Post Office, which were eventually fully repaid with the interest due. It is not accurate to talk of the communications infrastructure as funded by the taxpayers, for the last half-century it has been funded by the users.³ In 1975, following the recommendations of another Royal Commission, the Post Office was separated into the Australian Postal Commission (Australia Post) and the Australian Telecommunications Commission (Telecom Australia).

In 1981 the Australian Government formed a new telecommunications company AUSSAT Pty Ltd to own and operate a series of domestic satellites. The genesis of AUSSAT had its own history of enquiries, but one of the main proponents was Kerry Packer whose direct interest was the use of a satellite to network television stations. However, he described the proposition he put to Government:

And I went and saw the Prime Minister (Fraser) and I explained to him my understanding of what was happening in those areas and to his undying credit he grasped on it immediately and said, 'Of course it's what we want. It's exactly the sort of thing we need to stop the drift of people into the urban areas. We can keep them informed. We can allow them to participate in whatever's happening around the nation'.⁴

The Evans Statement and its repercussions

Major reform of telecommunications that eventually led to the removal of all restrictions on the ability to enter the market and to the eventual end of the Australian Government as a service provider in its own right can be reasonably dated from 25 May 1988. Senator Gareth Evans, Minister for Communications, made a ministerial statement, sometimes called the 'Evans Statement', outlining a new framework for telecommunications services. In this statement the Minister said:

The principal policy objective that has been pursued in this context has been the provision of telephone services throughout Australia on a non-discriminatory, uniform basis at affordable prices. The needs of rural Australia have been given special status in this context...

These objectives, and the policy measures used to achieve them — have generally served Australia well over the past years. The traditional objectives themselves remain important, and the Government will continue to promote them under the new policies set out in this statement. But they are no longer sufficient, by themselves, to meet Australia's future needs for telecommunications services.

Technological and economic developments, new service opportunities and new national and global market opportunities, and imperatives require the definition of a wider range of objectives, and reconsideration of the policy measures needed to achieve them...

Telecommunications is no longer just traditional telephone, telegram and telex services, but now includes access to information, to computers, to new services, to electronic mail, to entertainment and to the world's markets. Australia's success in both providing and using these wider services will be crucial to success in restructuring for growth in advanced economic activities.⁵

However, the start that was made at that point was limited. A number of the decisions set up the changes that followed for two decades:

- The Bureau of Transport and Communications Economics would prepare a report on the costs and cross-subsidies associated with meeting identifiable community service obligations met by Telecom.
- A new regulatory authority, AUSTEL, would be established, responsible for technical regulation, protecting the carriers' monopoly, protecting customers from unfair practices, protecting consumers against misuse of the carriers' monopoly powers, and promotion of efficiency.
- The monopoly of each of Telecom and OTC for the basic switched voice networks (domestic and international, respectively) would be preserved. The new regulatory authority would report on the implications of licensing an additional operator of cellular mobile services.
- There would be no change to the present ownership or structural relationships amongst the three carriers (Telecom, OTC and AUSSAT), but these would be subject to review after the main elements of the Evans statement had been put in place. Telecom would be converted to a corporation rather than authority. A number of day-to-day controls would be removed. Pricing by OTC and Telecom would become subject to regulations limiting average price rises to a minimum annual percentage below the rate of inflation (the CPI-X formula).

- Value added services (VAS) would be open to full competition. The three carriers would be allowed to participate fully in VAS, but required to maintain separate accounting records for operations in VAS markets. Telecom's regulatory responsibility for approving equipment for connection to the network would be transferred to AUSTEL. Apart from first phone there would be full competition in Customer Premises Equipment.⁶

The processes set in train by the statement almost inevitably led to the next set of changes. AUSTEL recommended the licensing of two additional mobile operators,⁷ the Bureau of Transport and Communications Economics reported on the cost of the CSOs⁸ and the Government established the review known as both the Carrier Review and ROSA (Review of Structural Arrangements). From this review the legislative changes of 1991 were developed.⁹

The core changes were announced by the Prime Minister in a statement to Parliament on 8 November 1990.¹⁰ As the Prime Minister outlined, the reforms had four key components:

- establishing a new competitor, to be based on the sale of AUSSAT
- developing new services, licensing both the AUSSAT purchaser and a third licensee and indicating that further mobile operators may be licensed in 1995
- strengthening the regulator, AUSTEL, and
- ensuring a strong, publicly owned telecommunications company through the merger of Telecom Australia and OTC (which was later renamed Telstra).

Leading up to the Cabinet decision there had been debate about the way forward with the Treasurer criticising the Communications Minister's proposals as a 'step backwards' to a 'less competitive, more entrenched structure'.¹¹

The reason for that criticism was that the decision to merge OTC and Telecom had been based on a variety of the 'strong national champion' argument, that the merged entity could develop export opportunities. This was encapsulated in the Prime Minister's statement as:

It is equally clear that we must ready ourselves to take advantage of new export and job opportunities that will be created around the world, particularly with rapidly rising living standards in the Asia Pacific region. The nations of the Asia Pacific region have half the world's population but only 17 per cent of its 500 million telephones. Meeting the region's demand for new telecommunications services, servicing these vast new markets, poses an enormous opportunity for Australia.¹²

Just as the 1988 statement had presaged further reform, so did the 1990 statement, saying:

If this duopoly is to serve its purpose and if the possibility of collusion is to be avoided, it must have a finite term. We have decided that after 30 June 1997 the duopoly will terminate, paving the way for there to be no limit on network competition.¹³

There was much detail to be worked through, but the statement of 1990 became the *Telecommunications Act 1991*. Following on from that Act, AUSSAT was sold to Optus (then a consortium of Cable&Wireless, Bell South, Mayne Nickless, AMP and other investors), and Vodafone secured the third mobile license.

As the decision had been made to move to a position of full competition, the Australian Government commenced a consultation program releasing an issues paper in September 1994. The issues paper noted:

Apart from the fact that the current Act was prepared with a certain objective in mind, regular policy and regulatory review and adjustment seem essential for the Government to fulfil its obligations relating to appropriate oversight of an industry subject to such rapid change. The pressures forcing change in 1987 — technology, user demands, globalisation — remain pressures for change. Now perhaps, they are even more pressing, with the issues being wider and more complex.¹⁴

The eventual legislative package was introduced in 1996, and the explanatory memorandum explained the bills as follows:

In its pre-election statement, Better Communications, the Coalition announced its intention to introduce greater competition in the telecommunications market from 1 July 1997. The Minister for Communications and the Arts released a discussion paper in May 1996 containing broad proposals for key aspects of regulatory reform. Following a process of public consultation on that discussion paper, the Government released exposure draft legislation in three packages during August, September and October 1996.

This Bill forms part of a package of legislation which implements the Government's election commitment and responds to the processes of consultation that the discussion paper and exposure draft legislation facilitated. The package will repeal the Telecommunications Act 1991 and replace it with a new regulatory framework principally contained in the proposed Telecommunications Act 1996 and proposed new Parts of the Trade Practices Act 1974.

The Telecommunications Bill 1996:

- *identifies carriers and carriage service providers as the participants in the telecommunications industry who are to be subject to regulation and creates the mechanisms to impose any necessary regulation upon them*
- *creates obligations on carriers and carriage service providers for the benefit of consumers (such as universal service, untimed local calls and the customer service guarantee)*
- *creates obligations on carriers and carriage service providers for the benefit of the general community (such as provision of emergency call services, protection of the privacy of communications and requirements to co-operate with law enforcement agencies)*
- *creates obligations on carriers and carriage service providers which will promote competition (such as provision of pre-selection and requirements for calling line identification)*
- *provides for technical regulation and management of numbering, and*
- *gives benefits to carriers in the form of certain powers and immunities which assists them in carrying out the obligations which the legislation places on them.*

The Trade Practices Amendment (Telecommunications) Bill 1996 will insert industry-specific competition regulation into the Trade Practices Act 1974, including specific powers supplementing Part IV of that Act to deal with anti-competitive conduct and an access regime establishing access rights and obligations for carriers and service providers.

The Australian Communications Authority Bill 1996 will establish the Australian Communications Authority (ACA) by merging AUSTEL with the Spectrum Management Agency. This new body will manage the radiofrequency spectrum, administer licensing of carriers, and administer consumer and technical issues relating to telecommunications, while administration of

all competition regulation in this industry will transfer to the Australian Competition and Consumer Commission (ACCC).¹⁵

The way these provisions operate as subsequently amended are described in the third part of this Appendix.

INQUIRIES AND AMENDMENTS POST 1997

A series of further legislative amendments followed the major reforms of 1997, though one other major reform pre-dated them. This was the move to partial privatisation of Telstra.

To Sell or Not To Sell

While there was bipartisan support for the major elements of the post-1997 regime,¹⁶ the Coalition had gone to the 1996 election with a plan to sell one third of Telstra. Part of the proceeds from the sale was to be earmarked for a conservation fund of one billion dollars.

The Australian Government introduced its *Telstra (Dilution of Public Ownership) Bill 1996* before the passage of its post-1997 reforms. The report of the Senate Committee was titled 'Telstra: To Sell or Not To Sell'. A key component of the legislation introduced in that Bill was the provision for a Customer Service Guarantee which the minority (Government) senators noted had received strong support:

The consumer service guarantee provisions received a widely favourable response. The peak body for business telecommunications users praised the provisions warmly, [saying] 'ATUG would submit that the Customer Service Guarantee requirements of a carrier set out in the Telstra (Dilution of Public Ownership) Bill forms the most significant element of consumer protection that has ever been provided for this industry.' Similarly, representatives of domestic consumers responded positively. For example, the Consumers' Telecommunications Network said, 'the consumer service guarantee set out in the bill is a welcome statement of good intentions for consumer protection'.¹⁷

A further commitment arising from the initial sale of Telstra was the creation of the Networking the Nation (NTN) program in June 1997 (discussed further under Government Programs).

Transition to Full Private Ownership

The next set of legislative changes was introduced together with the *Telstra (Transition to Full Private Ownership) Bill 1998*. This package of five bills included the *Telecommunications (Consumer Protections and Service Standards) Bill 1998* the primary purpose of which was 'to restate in a single Bill the range of safeguards that are presently available to consumers of telecommunications services.'¹⁸ Additional legislative amendments included provisions for the ACCC to monitor the prices paid for communications services and to report on compliance with retail price controls.

In their minority report to the first Senate Committee report on this package of legislation the Australian Democrats and Greens Senators recommended '*that regular reviews of the Universal Service Obligation be guaranteed in legislation*' noting that '*it may be worthwhile giving consideration to the establishment of a permanent panel of review, comprising industry, consumer, legal and departmental representation.*'¹⁹

The second committee report on this package of bills had recommendations that, *government should proceed with the development of a Universal Service Obligation (USO) tendering scheme with a view to determining if there is a serious commitment from industry to participate in such arrangements* and that, *The Committee recommends that the government seek advice from the ACCC on any procedural changes it would recommend to improve the effectiveness of the competitive regime.*²⁰ In proposing the bills, the Australian Government made a commitment to undertake an inquiry into the adequacy of telecommunications services, though as noted in the minority reports the requirement was not part of the legislation.

The legislative provisions to enable the sale were enacted while the Australian Government undertook not to proceed with the sale until it received certification of the adequacy of services.

Digital Data Service and USO Contestability

In 1996 the majority report of the Review of the Standard Telephone Service, chaired by Jock Given, recommended that, 'a digital data capability...should be provided through the USO mechanism,'²¹ where it is not provided through the operation of the market. The Review did not recommend the inclusion of mobile telephony because it concluded that the social importance of mobile telephone at the time was not sufficient. At the time there were only 3.8 million mobile services in operation and this was 40 per cent of the number of fixed telephone services. (The social and economic importance of mobile services is now substantially more significant with over 20 million services in operation, nearly 100 per cent greater than the number of fixed telephone services which is nearly 11 million).²²

In 1998 the Australian Communications Authority was instructed by the Minister to conduct a public inquiry into whether the benefits of prescribing a minimum data rate access to the internet would exceed the costs.²³ It found:

...that access to a data capability is becoming increasingly important in Australian society as evidenced by increasing Internet and e-mail usage statistics. Additionally, there are encouraging signs that the data services market will deliver outcomes to address this increasing demand. Despite these developments, disparity exists in terms of data service capability and access charges between metropolitan and rural consumers.

In addressing this disparity the ACA does not favour specifying a digital data carriage service as part of the USO. This is not supported on cost/benefit assessments. Furthermore, use of the USO provisions would have unfavourable impacts on competition. It is arguable that the USO provisions themselves may be a denial of competitive opportunity and a disincentive for other carriers who may wish to take advantage of new developments, such as wireless local loop and satellite systems, to provide Australians with enhanced data services.

A more favoured approach is to target the impediments which inhibit market growth for data services in rural and remote areas. Two particular barriers are the slower data rates for customer access and timed call charges for ISP access.²⁴

In the legislative package supporting the further privatisation of Telstra, the Universal Service legislative provisions were amended in 1999 to provide for a 'Digital Data Service Obligation' to ensure all people in Australia have access upon request to a digital data service of 64kbps. The DDSO recognised the increasing demand for access to faster data services, particularly for internet use. The DDSO had two components — the General DDSO and the Special DDSO. Under the General DDSO, Integrated Services Digital Network (ISDN) services were available upon request and payment of applicable charges to 96 per cent of the Australian population. For the four per cent of the population unable for technical reasons to access ISDN, a one-way satellite service was available under the Special DDSO.²⁵ (The Minister for Communications, Information Technology and the Arts announced a decision to remove a range of regulations including the Digital Data Service Obligation.²⁶ This obligation has been superseded by the Australian Broadband Guarantee in June 2007.)

Telecommunications Service Inquiry 2000

The inquiry was known as the Telecommunications Service Inquiry (TSI) chaired by Mr Tim Besley. The committee provided a formal certification to the Australian Government that enabled the further sale of Telstra to proceed in the terms below:

The Inquiry has concluded that Australians generally have adequate access to a range of high quality, basic and advanced telecommunications services comparable to the leading information economies of the world. The Inquiry research indicates Australians who live in metropolitan and regional centres enjoy good telecommunication services and are generally satisfied with them. However, a significant proportion of those who live and work in rural and remote Australia have concerns regarding key aspects of services which, at this stage, are not adequate. Their concerns relate primarily to:

- *the timely installation, repair and reliability of basic telephone services*
- *mobile phone coverage at affordable prices, and*
- *reliable access to the internet and data speeds generally.*

The Inquiry's analysis suggests that the continued development of competition throughout Australia, combined with key government initiatives (such as USO contestability) will have a positive effect on services over the next few years. These developments are likely to materially improve the services available to rural and remote consumers.

The recommendations which follow provide a framework in which to address identified areas of concern to ensure the telecommunications sector will continue to improve the services available to all Australians.²⁷

The Australian Government's response was focussed on the areas where there had been concerns expressed about adequacy, including projects funded under the Social Bonus (see Government Programs below for further details).

On 23 March 2000 the Australian Government announced a number of major initiatives in relation to the provision of universal service in Australia and of untimed local calls in remote Australia. In broad terms, the key decisions were to:

- (a) enhance industry certainty by enabling the Minister to determine a universal service provider's net universal service cost (NUSC) in advance for 2000–01 and subsequent financial years, for up to three years in advance
- (b) undertake a competitive selection process to award the \$150 million allocated for the provision of untimed local calls in remote Australia (the Extended Zones), with the successful tenderer subsequently becoming the universal service provider for the area

- (c) amend the universal service regime to improve its general operation, particularly in relation to contestability, costing and funding
- (d) undertake two pilot schemes in regional Australia to trial the competitive supply of services under the USO, and
- (e) extend the funding base for the USO and DDSO to include carriage service providers as well as carriers.

These provisions were introduced in the *Telecommunications (Consumer Protections and Service Standards) Amendment Bill No.2 2000*.

Productivity Commission

In June 2000, the Government requested the Productivity Commission to undertake a review of the telecommunications competition regulations, and that *in conducting the review, the Commission has regard to the intent of the Parliament in establishing the review, the state of competition in the telecommunications market, and the impact of new technologies and delivery platforms*.²⁸

In January 2001, the Productivity Commission was advised *that in undertaking the review the Productivity Commission should:*

- *have regard to the differing levels of competition across Australia and consider whether a greater recognition of those differing circumstances should be incorporated into competition regulation, and*
- *specifically consider the implications of current pay television programming arrangements for the development of telecommunications competition in regional Australia, and consider whether any additional regulatory measures are needed to facilitate access to pay television programming.*

*These additions arise from the Report of the Telecommunications Service Inquiry (the Besley inquiry).*²⁹

In its report the Commission found:

There is less competition in regional areas than in metropolitan areas. This stems from the high cost of duplicating facilities and more dispersed demand. However, there is a range of telecommunications services in regional Australia and new ones are developing:

- *the three main mobile carriers provide coverage of up to 97 per cent of the population, and satellite services offer 100 per cent coverage*
- *regional areas have more comprehensive pay TV content, via Austar's services, than metropolitan areas*
- *satellite services are also being used to provide high speed internet, and*
- *in some regional cities — such as Mildura, Ballarat, Canberra and Cooma — cable networks are being or have been rolled out.³⁰*

Following on from the Productivity Commission the Australian Government introduced the *Telecommunications Competition Bill 2002*. This bill implemented the Australian Government's response to the Productivity Commission's Inquiry Report.

The measures contained in the Bill aim to increase the level of competition and investment in the telecommunications market to the benefit of consumers and business by:

- (a) *facilitating timely access to basic telecommunications services*
- (b) *facilitating investment in new telecommunications infrastructure*
- (c) *encouraging a more transparent regulatory market [accounting separation]*
- (d) *enhancing accountability and transparency of decision making under Part XIB, and*
- (e) *making a number of other changes to the telecommunications regime.³¹*

Regional Telecommunications Inquiry (RTI) 2002

On 16 August 2002 the Minister for Communications, Information Technology and the Arts, established the Regional Telecommunications Inquiry (the Inquiry), *to assess the adequacy of telecommunications services in regional, rural and remote Australia, and to advise on a number of other policy issues³²*. The Committee was chaired by Mr Dick Estens and is therefore sometimes called the Estens Inquiry.

In undertaking its assessment of service adequacy, the committee was, *strongly guided by the extent to which problems identified in the TSI report have been addressed and overcome.³³*

A complete list of the recommendations of this inquiry, and the Australian Government response, is included in appendix G.

Full Privatisation of Telstra

The full privatisation of Telstra was facilitated by a legislative package in 2005. The Australian Government had, however, first introduced a bill to respond to the RTI recommendations.

This was the *Telecommunications Legislation Amendment (Regular Reviews and Other Measures) Bill 2005*. This bill responded to *Recommendations of the Regional Telecommunications Inquiry Report of 2002 (the Estens Report)* relating to:

- the need for Telstra to maintain a local presence in regional, rural and remote parts of Australia, and
- regular independent reviews into the adequacy of telecommunications in regional, rural and remote parts of Australia³⁴.

The bill in its amended form was passed as part of the as the *Telecommunications Legislation Amendment (Future Proofing and Other Measures) Act 2005*, and included the provision for the Communications Fund and for contribution to consumer protection codes from carrier licence fees. The requirement for Telstra to have a Local Presence Plan was introduced by a carrier license condition on Telstra.

The *Telecommunications Legislation Amendment (Competition and Consumer Issues) Act 2005* amended the *Telecommunications Act 1997* and the *Trade Practices Act 1974*. The significant elements were:

- *providing for Telstra to develop a plan for the ‘operational separation’ of its network, wholesale and retail business units.*
- *making changes to parts XIB and XIC of the TPA, including:*
 - *increasing the penalty for breach of competition rule*
 - *giving power to the Australian Competition and Consumer Commission (ACCC) to be able to make procedural rules*
 - *amending the objects of Part XIC (schedule 9)*
- *encouraging any-to-any connectivity*
- *other changes*
 - *repealing the requirement for carriers to have industry development plan*
 - *clarifying the powers of the ACMA in relation to enforcement of industry codes*

- *[and other changes to ACMA powers and the Numbering Plan consultation].*³⁵

This extensive review of the legislative history has outlined how much debate has been focused on telecommunications, but also emphasises the very incremental nature of the changes since 1996/97.

GOVERNMENT PROGRAMS TO EXTEND SERVICES

As discussed above, starting with Networking the Nation in 1997 the Australian Government has maintained a series of initiatives to either fund new network construction or service provision or to subsidise consumers' access to services. These programs are described below.

Networking the Nation

This program allocated around \$322.5 million to 762 projects across regional, rural and remote Australia.³⁶ These were projects designed to assist the economic and social development of rural Australia by:

- enhancing telecommunications infrastructure and services
- increasing access to, and promote use of, services available through telecommunications networks, and
- reducing disparities in access to such services and facilities.

A defining feature of the Networking the Nation program was that it placed the right and the responsibility for initiating action to remedy local telecommunications deficiencies in the hands of regional communities and representative groups within those communities, along with state and local governments. This resulted in a very wide range of projects being submitted for funding.

The projects that received funding included:

- *planning studies*
- *communications infrastructure*
- *mobile phone base stations and repeaters*
- *websites and portals*
- *videoconferencing*

- *internet service providers and points of presence (POPs)*
- *public Internet access facilities*
- *IT training, and*
- *online services/e-business trials.*

Based on the consolidated data available, it is reasonable to conclude that the following infrastructure and services were delivered by NTN funding:

- *267 mobile phone facilities were installed as a result of NTN funding. NTN provided almost \$40 million to fund the construction of these facilities, which was at least matched, bringing the total amount spent on mobile phone facilities to \$80 million, and*
- *NTN funded the establishment of 153 POPS to provide Internet access at local call rates.³⁷*

Social Bonus from T2

The Australian Government allocated \$174 million as part of the Social Bonus from the further sale of Telstra to a range of programs targeting particular communications in regional Australia:

- Building Additional Rural Networks (\$70 million)
- Local Government Fund (\$45 million)
- Internet Access Fund (\$36 million)
- Remote and Isolated Islands Fund (\$20 million)
- Extended Mobile Telephone Coverage in Western Australia, South Australia and Tasmania (\$3 million).³⁸

Mobile Phones on Highways

The Mobile Phones on Highways initiative provided \$25 million to facilitate continuous mobile phone service for the maximum number of users (regardless of where they normally do business or reside) along a number of major Australian highways. There are 9425 kilometres of designated highways covering areas within the Australian Capital Territory, New South Wales, Queensland, Tasmania and Victoria.

Funding for this initiative was allocated from the Social Bonus Package, funded by the second partial sale of Telstra. Following a competitive tender process the contract was awarded to Vodafone on 23 April 2001.

Vodafone completed the roll-out of new infrastructure in June 2003, and was required to continue to provide the services for a period of five years (i.e. until June 2008).³⁹

Response to the Telecommunications Services Inquiry

The Australian Government responded to the Telecommunications Service Inquiry with a funding package of \$163.1 million. In announcing the package the Minister for Communications, Information Technology and the Arts said,

This package ensures that both the Government and Telstra meet their responsibilities to regional, rural and remote Australia.

The response to the recommendations in the report is the next step in the Government's plan to improve telecommunications infrastructure and services, and to ensure that all Australians have access to a decent telephone service.

The initiatives include:

- *further strengthening of the Customer Service Guarantee to reduce new service connection times and strengthening of the Universal Service Obligation in relation to the provision of temporary services*
- *\$37.7 million for mobile phone coverage in population centres of 500 and above, subject to confirmation of community needs and ongoing viability*
- *\$50.5 million for improved mobile coverage in other areas of Australia*
- *\$50 million for better quality and faster access to dial-up Internet services*
- *\$52.2 million for a National Communications Fund*
- *improved payphone and other services for Indigenous communities in remote areas, and*
- *\$3.4 million to fund increased consumer representation.*⁴⁰

Regional Mobile Phone Program

The Australian Government allocated \$50.5 million to fund other ways of providing greater access to affordable mobile telecommunications in areas currently without terrestrial services. On 1 November 2001, the Minister for Communications, Information Technology and the Arts announced the allocation of funding under this program as follows:

- \$20.4 million to provide improved coverage on 34 regional highways, subject to ongoing viability
- \$20.4 million to provide coverage to 55 towns with populations under 500, subject to community need and ongoing viability
- \$7 million towards the WirelessWest project to improve mobile phone services in the south west land division of Western Australia
- a \$2.1 million satellite handset subsidy scheme, providing up to \$1100 to offset the purchase price of a handset for those people who are unable to access terrestrial mobile phone services, and
- \$50 000 to address a blackspot in mobile phone coverage in the ACT.⁴¹

Towns Over 500 Program

Under the 'Towns Over 500' program, funding was provided to Telstra to improve mobile phone coverage to 131 towns in regional Australia which have populations of 500 or more. This program was developed in response to concerns raised in the Telecommunications Service Inquiry about mobile phone coverage in regional areas.

The contract with Telstra followed a competitive process. The roll-out of new services was completed in September 2006.⁴²

Extended Terrestrial Mobile Phone Coverage Program

This program arose from the 2002 Regional Telecommunications Inquiry and provided \$15.65 million to support the capital costs of mobile phone infrastructure required to supply new or improved mobile phone coverage in regional Australia. Of these funds, \$1.25 million was specifically earmarked to be used for towns with populations of 500 or more. Locations were selected on the basis of available population to be serviced, degree of existing coverage and viability of ongoing services.

Following a competitive tender process, a funding agreement was signed between the Commonwealth and Telstra to provide improved CDMA mobile phone coverage to 62 locations. In early 2005 Telstra commenced a roll-out of the infrastructure, with all services completed by June 2007.⁴³

Mobile Connect

Mobile Connect is an Australian Government program which provides funding to extend terrestrial mobile phone coverage in regional Australia, and to extend the operation of the Satellite Phone Subsidy Scheme until June 2009.

In terms of terrestrial coverage, applications have been sought for a program to extend coverage to priority locations in regional, rural and remote areas which are:

- communities with no existing mobile coverage, or
- selected stretches of highways with no existing mobile coverage.

A list of priority locations has been developed drawing on advice from the Regional Telecommunications Independent Review Committee and in consultation with mobile phone carriers.

The list is composed of two parts:

- Group A locations — towns that do not currently have terrestrial mobile coverage, and where there are no known plans for coverage to be provided before 1 July 2009, and
- Group B locations — highway lengths identified by the Regional Telecommunications Independent Review Committee as priorities based upon submissions received during their public consultation process and where there are no known plans for coverage to be provided before 1 July 2009.

The Australian Government objective is to ensure that the funded infrastructure is installed within the 2008–09 financial year, and that the successful applicant provides mobile phone services using that infrastructure for a period of 10 years from the completion of the infrastructure roll-out.⁴⁴

Satellite Phone Subsidy Scheme

The Satellite Phone Subsidy Scheme (the Scheme) is an Australian Government initiative to help people living or working in the most remote parts of Australia purchase satellite mobile phones. Initial funding for this Scheme was allocated in response to the TSI and further funding has been provided in response to the RTI, and also as part of the Mobile Connect element of the *Connect Australia* package.

The following points summarise its features:

- The Scheme provides support to people who live or work in areas beyond 3G or GSM terrestrial mobile coverage.
- The Scheme applies to terrestrial, maritime and aviation users who meet the eligibility criteria.

- Eligible consumers include individuals, small businesses, community groups, non-profit organisations, Indigenous corporations, volunteer emergency services and educational institutions.
- There is a limit of one subsidy per person or a maximum of two subsidies per organisation or business. Indigenous corporations that demonstrate a need to adequately service a number of remote communities may apply for more than two subsidies.
- The Scheme provides eligible consumers a one-off subsidy of up to \$1000 towards the purchase of a mobile satellite phone (conditions apply).
- The subsidy is for the purchase of a satellite mobile phone through a *registered dealer*. The subsidy is paid to dealers, who deduct it from the retail price of the phone to consumers.
- The application must be approved before the phone is purchased — the subsidy will not be paid for a satellite mobile phone purchased before the application for the subsidy is approved.
- The subsidy is for the purchase of a satellite mobile phone and does not cover any ongoing bills, charges or the ongoing service of the service provider.

HiBIS

The Higher Bandwidth Incentive Scheme (HiBIS) started on 8 April 2004. HiBIS was a \$157.8 million initiative of the Australian Government providing registered internet service providers with incentive payments to supply higher bandwidth services in regional, rural and remote areas at prices comparable to those available in metropolitan areas. HiBIS was part of the Australian Government's contribution to the *National Broadband Strategy* and was the Government's response to recommendation 6.3 of the report of the *Regional Telecommunications Inquiry*.⁴⁵

Broadband Connect

The \$878 million *Broadband Connect program* commenced on 1 January 2006 and built on HiBIS which ended on 31 December 2005.⁴⁶ The program was announced on 17 August 2005 by the Minister for Communications, Information Technology and the Arts as part of the package called Connect Australia.⁴⁷ It consisted of two components: an incentive scheme that replaced HiBIS, and a Broadband Connect Infrastructure Program. On 2 April 2008 the Minister for Broadband, Communications and the Digital Economy announced that the network selected under the second part of the program would not proceed.⁴⁸

Australian Broadband Guarantee (ABG)

Australia Connected, a funding and legislative initiative, was announced on 18 June 2007 to deliver fast affordable broadband access for all Australians. As well as recommitting to the program formerly known as the Broadband Connect Infrastructure Program, the package included (amongst other things) the Australian Broadband Guarantee which provided, *A safety net that ensures Australians living in the most remote or difficult to reach areas (the remaining one per cent) are entitled to a broadband subsidy of \$2750 per household.*⁴⁹

On 13 May 2008 the Minister for Broadband, Communications and the Digital Economy announced an extension of the Australian Broadband Guarantee program to safeguard the broadband opportunities for all Australians, while the Australian Government continues to implement its broader broadband policy agenda.⁵⁰ The program received additional funding in the 2008–09 Budget to bring the total program funding up to \$270.7 million over four years.

In making the announcement, the Minister said, *In response to industry and consumer feedback, changes will be made to the Australian Broadband Guarantee to encourage greater terrestrial broadband access and to target Australians living in remote and difficult-to-service 'blackspot' areas.*⁵¹

On 1 July 2008 the new program guidelines were released.⁵² The ABG provides all Australian residential and small business premises with access to metro-comparable Broadband Services by offering financial assistance (in the form of incentive payments) to registered providers to supply metro-comparable Broadband Services where such services would not otherwise be available. There are three categories of Service that Service Providers can offer under the Australian Broadband Guarantee program: a Threshold Service, an Entry Level Service, and an Added Value Service.

A Threshold Service must offer access to the internet at a peak download/upload data speed of at least 512/128kbps and at least 3GB per month usage allowance, at a price to the customer over three years of no more that \$2500 (GST inclusive), and shaping of data to no less than 64kbps at no cost or excess data charges of no more than five cents per megabyte, with no shaping for any data used above the specified monthly data usage allowance.

Providers may also choose to offer entry level services that provide access to the internet at a peak download/upload data speed of at least 256/64kbps and at least 500MB per month usage allowance. A condition of registration is that providers must have registered at least one added value service with a speed of at least 1024/256kbps, and at least 5GB per month usage allowance.

There are a number of other requirements that apply to the services, and the full guidelines should be consulted by anyone interested in the program.⁵³

CURRENT REGULATORY STRUCTURE

Principal legislation

The three principal pieces of legislation regulating telecommunications in Australia are the *Telecommunications Act 1997*, the *Telecommunications (Consumer Protections and Service Standards) Act 1999* and the *Trade Practices Act 1974*, the primary provisions of each of these follow.

The *Telecommunications Act 1997* specifies the basis on which a person can own or operate a communications network (be a carrier) and the basis on which a person can offer services to the public (be a carriage or content service provider). It further provides for:

- industry codes and standards
- protection of communications
- national interest matters
- defence requirements and disaster plans
- pre-selection
- calling line identification
- technical regulation
- numbering
- standard agreements for supply of carriage services
- carriers powers and immunities
- submarine cables, and
- ancillary matters.

The Act also provides the Minister with the power to apply additional license conditions on any carrier license. This provision has been used to create additional obligations on Telstra.

The Act also establishes a facilities access regime that requires carriers to share towers, ducts and similar aspects of telecommunications 'infrastructure'.

The *Telecommunications (Consumer Protections and Service Standards) Act 1999* legislates a number of consumer protection matters, particularly:

- the Universal Service Regime
- the National Relay Service
- continued access to untimed local calls
- Customer Service Guarantee
- the Telecommunications Industry Ombudsman
- provision for emergency call services
- retail price controls on Telstra, and
- other ancillary matters including regular reviews.

Some of these arrangements are discussed in more detail below.

The *Trade Practices Act 1974* includes two telecommunications specific parts, Parts XIB and XIC. Part XIB contains telecommunications-specific anti-competitive conduct provisions which supplement the general anti-competitive conduct provisions in Part IV. Part XIC contains a telecommunications-specific access regime.

The Hilmer Committee noted that the operation of the standard anti-competitive conduct provisions for 'essential facilities' or 'bottlenecks' may be inadequate because, at best, an access seeker may get damages payments for a refusal to supply rather than supply itself. Accordingly, Hilmer recommended the creation of access regimes.⁵⁴ Part XIC of the *Trade Practices Act 1974* creates such an access regime for telecommunications services (whereas other industries are covered by Part IIIA). In brief:

*Part XIC of the Trade Practices Act 1974 is a key component of the regulatory framework supporting the development of a competitive telecommunications industry. It establishes a regime under which service providers can access 'declared' services in order to supply competitive services to end-users. The Australian Competition and Consumer Commission is responsible for declaring services which are subject to the access obligations of this regime.*⁵⁵

The ACCC can declare a service after a public enquiry. *In deciding to declare a service Under Part XIC, the test for declaration is the 'long-term interests of end-users' test. That is, the Commission must be satisfied that making the declaration will promote the long-term interests of end-users of:*

- carriage service, or
- services provided by means of carriage services.

In order to determine whether declaration will promote the long-term interests of end-users, s. 152AB of the Act provides that the Commission must consider the extent to which declaration is likely to result in the achievement of the following objectives:

- *the objective of promoting competition in markets for carriage services and services supplied by means of carriage services*
- *for carriage services involving communication between end-users, the objective of achieving any-to-any connectivity, and*
- *the objective of encouraging the economically efficient use of, and economically efficient investment in, the infrastructure by which carriage services and services provided by means of carriage services are supplied.*

In the Commission's view, these objectives are essentially 'secondary objectives'. They are not ends in themselves but are the means by which the primary objective (of promoting the long-term interests of end-users) is to be realised.⁵⁶

There have been a number of declaration enquiries, some of which have resulted in services not being declared or having existing declarations varied or revoked. These are referred to in the report where relevant.

Once a service is declared the provider of the service is required to meet the 'standard access obligations'. There are a range of provisions that cover the way that access seekers and access providers might reach agreement about the terms and conditions of supply of the service. These include requirements for the Commission to publish pricing principles with declarations, the requirement for the ACCC to publish model terms and conditions in relation to some services and the ability for an access provider to have the ACCC accept an undertaking in relation to standard terms and conditions. However, the ultimate means for settling the terms of access is the ability to have the ACCC arbitrate a dispute. As the ACCC describes it:

The dispute resolution framework established by Part XIC of the Act reflects a negotiate/arbitrate model. If the parties both have an interest in establishing and maintaining a commercial relationship with each other, then they will often be able to negotiate access arrangements without recourse to arbitration. However, this will not always be the case, especially if the access provider has no commercial incentive to provide access to the access seeker. If the parties cannot

negotiate access arrangements or use consensual dispute resolution processes, the ACCC can step in, if requested, and establish the terms and conditions that will govern their relationship.⁵⁷

There have been a number of notified disputes. These are mentioned in the report where relevant.

The final element in the *Trade Practices Act 1974* is the telecommunications-specific anti-competitive conduct provisions in Part XIB. As explained in the explanatory memorandum to the Bill *Part XIB of the TPA sets up a special regime for regulating anti-competitive conduct in the telecommunications industry. This regime will apply in addition to Part IV of that Act, which regulates restrictive trade practices in general.*

Telecommunications is an extremely complex, horizontally and vertically integrated industry and competition is not fully established in some telecommunications markets. There is considerable scope for incumbents to engage in anti-competitive conduct because competitors in downstream markets depend on access to networks or facilities controlled by the incumbents. Furthermore, the possibility of anti-competitive cross-subsidies by incumbents from non-competitive markets to markets in which competition exists or is emerging is a particular threat to the establishment of a competitive environment.

Total reliance on Part IV of the TPA to constrain such anti-competitive conduct might, in some cases, prove ineffective because of the state of competition in the telecommunications industry and the fast pace of change in this industry. There may be difficulty, for example, in obtaining evidence of predatory behaviour supported by inappropriate internal cost allocation by horizontally or vertically integrated firms. Anti-competitive behaviour in telecommunications could cause particularly rapid damage to competition because of the volatile state of the industry during the early stages of competition. Against this background, Part IV alone may prove insufficient to deal with anti-competitive behaviour in telecommunications at this time.

Therefore...the amendments made by proposed Part XIB supplement Part IV by increasing the ability of the ACCC to respond where there is evidence of anti-competitive conduct, particularly (though not limited to) predatory pricing behaviour. As well as being able to seek injunctions to stop anti-competitive conduct...the ACCC will be able to issue a competition notice stating that a carrier or carriage service provider has engaged in anti-competitive conduct... The ACCC will be able to seek pecuniary penalties and a third party will be able to seek damages where anti-competitive conduct is engaged in after the

ACCC has issued a competition notice and while the notice is in force. The competition notice is taken to be prima facie evidence of its contents but it does not conclusively establish that a carrier or carriage service provider has engaged in anti-competitive conduct — that is a matter to be determined by the Court.⁵⁸

Regulatory agencies

The ACCC has responsibility for the activities in telecommunications markets under both Parts IV and V of the TPA as it would for any other industry. In addition, the ACCC administers the telecommunications-specific access regime and anti-competitive conduct provisions referred to above. The ACCC also has some roles in resolving disputes under the facilities access regime and in determining other competition elements such as the pre-selection requirements.

The ACMA is responsible for administering the other regulatory provisions, primarily those in the *Telecommunications Act 1997* and the *Telecommunications (Consumer Protection and Service Standards) Act 1999*. This includes the registration of industry codes that can be developed by a group representative of a section of the industry. Most codes have been developed by Communications Alliance (formerly ACIF). ACMA has extensive responsibilities for monitoring both the consumer protections and technical standards in legislation but also those requirements placed on Telstra as license conditions. ACMA is also responsible for the administration of numbering, the protection of communications, defence requirements and disaster planning.

The Telecommunications Industry Ombudsman (TIO) is an independent dispute resolution scheme to which all service providers are required by legislation to belong. It is funded on a 'fee for service' basis by charging providers a fee for every complaint they receive about the provider. The TIO is governed by both a Board and a Council. The Council determines policy and consists of equal numbers of industry and consumer representatives. Under s114 of the *Telecommunications Act 1997* industry codes or standards can confer additional powers on the TIO.

Communications Alliance is an industry representative body. It has prepared most of the registered codes for the industry, covering matters of consumer protection (e.g. billing, complaint handling), operations (e.g. procedures for number portability), and network standards.

Consumer protection framework

A number of the consumer protections in the legislative framework or imposed on Telstra as license conditions were cited during the Committee's consultations. A summary of the underlying provisions is included below.

Universal Service Regime

Under the revisions to the Universal Service Regime to introduce contestability the legislation provides for a concept of a primary universal service provider and competing universal service providers. Despite these provisions Telstra remains the sole Universal Service Provider. As such Telstra is required to take all reasonable steps to fulfil the USO and to comply with its own policy statement and marketing plan on the USO. The USO aims to enable all people in Australia, wherever they reside or carry on business, to have reasonable access, on an equitable basis, to standard telephone services and payphones.

A standard telephone service is a carriage service for the purpose of voice telephony (or equivalent) where the service enables the user to communicate with any other user. In general, a standard phone service means the basic fixed phone line, including access to:

- local, national and international calls
- 24-hour access to the emergency call service number
- operator assisted services, and
- itemised billing, including itemised local calls on request.

As the primary universal service provider, Telstra is required by the *Telecommunications (Consumer Protections and Service Standards) Act 1999* to have a policy statement and marketing plan approved by the ACMA. The policy statement and marketing plan outline how Telstra intends to fulfil its obligations as universal service provider, including fulfilling its obligations to people with a disability, people with special needs and eligible priority customers.⁵⁹

A central object of the USO regime is that '*providers of telecommunications services should contribute in a way that is equitable and reasonable to the funding of the universal service obligation*'.⁶⁰ On advice from the ACMA, the USO subsidy is determined by the Minister. The revenues of each carrier are used to determine their relative contributions to the USO Levy. The universal service provider is able to submit levy credit claims to ACMA for the USO subsidies at the end of the financial year.

Customer Service Guarantee (CSG)

The Customer Service Guarantee is intended to be an incentive for telephone companies to improve their service provision. It is a standard promulgated by ACMA following a direction by the Minister. The CSG is limited to residential or small business subscribers with five lines or less and there are provisions for customer waiver and ACMA-administered exemptions. When a telephone company fails to meet certain performance measures they are required by the CSG standard to provide compensation

to the customers. This applies to service connections, time taken to repair services and meeting appointment times. The ACMA enforces the CSG and monitors and reports on compliance with the CSG standards.

The following tables provides the periods allowed for connections and repairs under the CSG standard and the damages payable when these periods are not met.

Customer Service Guarantee timeframes for connections:

Connection type	Community location	Community Size (no. of people)	Connection time (after receipt of customer's application)+
In-place connection	All	All	within 2 working days
No in-place connection (Close to available infrastructure)	Urban	Equal to or more than 10 000 people	within 5 working days
	Major rural	Between 2500 and 10 000 people	within 10 working days
	Minor rural and Remote	Up to 2500 people	within 15 working days

Customer Service Guarantee timeframes for repairs:

Community	Community size (no. of people)	Repair time
Urban	Equal to or more than 10 000 people	End of next working day after report
Rural	Between 10 000 and 200 people	End of second working day after report*
Remote	Up to 200 people	End of third working day after report*

Customer Service Guarantee timeframes for compensation:

Customer	Services delayed	Damages for first 5 working days (per working day)	Damages after first 5 working days (per working day)
Residential/ Charity	Connection or repair of standard telephone service	\$14.52	\$48.40
	Connection or repair of enhanced call handling features to an existing service	\$7.26	\$24.20
	Connection or repair of two or more enhanced call handling features to an existing service	\$14.52	\$48.40
	Not keeping an appointment	\$14.52 for each missed appointment	
Business	Connection or repair of the standard telephone service	\$24.20	\$48.40
	Connection or repair of enhanced call handling features to an existing service	\$12.10	\$24.20
	Connection or repair of two or more enhanced call handling features to an existing service	\$24.20	\$48.40
	Not keeping an appointment	\$24.20 for each missed appointment	

*Where Telstra disconnects the standard telephone service due to an administration error, or a fault can be repaired without attending the customer's premises or performing internal or external plant work, the repair timeframe for all service locations will be the end of the one [1] full working day after being notified of the fault.

The Regional Telecommunications Inquiry made recommendations to review CSG timeframes in rural and remote areas for the connection and repair of the standard telephone service (STS) supplied to residential and small business customers.

Under CSG standards, a carrier service provider can claim an exemption from connection and fault repair requirements by giving public notice of a Mass Service Disruption (MSD). The CSG has this provision because carrier service providers are sometimes subject to damage on a large scale or extreme weather events such as lightning, hail and heavy rainfall.

During 2006–07, Telstra declared 13 MSDs, 12 of which were due to extreme weather conditions and the remaining MSD due to damaged cable or networks. The average number of Telstra services affected was 2302 for an average exemption period of eight working days.⁶¹

Telstra Local Presence Plan

The Regional Telecommunications Inquiry recommended that Telstra should be required to maintain an ongoing local presence in regional, rural and remote Australia. Telstra would be required to develop and publish a Local Presence Plan (LPP) to set out the range of activities and strategies it would deploy in regional Australia to address the Australian Government's broad objectives. The recommendation stated that the requirement should not be unduly prescriptive or burdensome, and should be broadly compatible with Telstra's commercial interests.

A licence condition requiring Telstra to maintain a local commercial presence in regional, rural and remote Australia (the local presence obligation) came into effect in August 2005. The licence condition also requires Telstra to have a current LPP that sets out the activities and strategies that Telstra deploys in fulfilling the local presence obligation.

Telstra developed a LPP which came into effect in July 2006 and is in force until July 2009. Telstra is required to revise its plan and re-submit it for approval every three years and Telstra must report annually to the Australian Government and to ACMA on the progress with it.

Priority Assistance

Telstra is required as part of its carrier licence condition⁶² to provide a Priority Assistance service. This is designed to help persons with diagnosed life-threatening medical conditions that depend on a reliable home telephone service to call for assistance when needed.

Priority assistance customers are entitled to faster connection and fault repair of their telephone service and a greater level of reliability. The timeframes for connecting a service or repairing a fault for a priority assistance customer is 24 hours in urban and rural areas and 48 hours in remote areas.

Telstra is the only carrier required to provide priority assistance services to its customers as a condition of its licence. Under its licence condition, Telstra is required to have an effective policy for offering priority assistance services to persons with a life-threatening medical condition. AAPT and Primus both offer priority assistance services through the Communications Alliance Industry Code.

Telstra had 188 802 priority assistance customers as at 30 June 2007. Telstra's overall compliance with priority assistance connection and fault restoration requests was above 90 per cent for 2006–07 (except for fault repairs in remote areas last year which was 88 per cent)⁶³.

Extended Zones

Telstra is required as part of its carrier licence conditions⁶⁴ to provide access to untimed local calls, untimed internet access and other carrier services to Extended Zones that cover close to 80 per cent of Australia's land area.

The extended zones agreement is a \$150 million contract between the Australian Government and Telstra for the provision of improved telecommunications services to customers (approximately 28 000) living in the Telstra extended charging zones (approximately 102) which are located in the remotest parts of Australia. Under the agreement, which commenced in on 1 June 2001 and operates for a period of 10 years, Telstra is required to provide:

- untimed calls at the local call rate in the extended zones
- enhanced services, including the offer of an always-on internet access service, improved dial-up access speeds and improved timeframes for the connection of new services in the extended zones, and
- an upgrade of the telephone network in the extended zones.

Network Reliability Framework

Telstra is required as part of its carrier licence condition⁶⁵ to comply with Network Reliability Framework (NRF) arrangements.

The NRF is a safeguard for consumers — it improves the reliability of Telstra's fixed line services. The NRF is a three-tiered regulatory arrangement under which ACMA monitors the reliability of Telstra's fixed telephone network at three levels:

- Level 1: nationally and Telstra's 44 field service areas
- Level 2: reporting and remediation of poorly-performing cable runs, and
- Level 3: individual services that contravene certain fault thresholds.

The NRF only applies to services Telstra provides to its CSG-eligible customers — household and small business fixed-line customers with five lines or less.

The Regional Telecommunications Inquiry recommended that the Australian Government should adjust and refine the NRF as necessary over time to improve its operation. ACMA completed a review of the NRF in November 2004 and made a number of recommendations aimed at improving the operation of the NRF, with a particular focus on improving repairs in regional, rural and remote Australia. The Australian Government made changes to the NRF to better target poorly performing parts of Telstra's network in regional, rural and remote areas which took effect in October 2006.

As at 30 June 2007, Telstra had completed remediation of 124 cable runs under the level 2 NRF reporting arrangements. Whilst a small number of individual services have contravened the performance thresholds for Level 3 NRF reporting, in 2005–06 there was a 22 per cent increase in the number of contraventions by comparison with the previous year⁶⁶.

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APPENDIX G — OUTCOMES OF THE REGIONAL TELECOMMUNICATIONS INQUIRY

In the Committee's consideration of adequacy of service in regional Australia, it was appropriate to review the effectiveness of the recommendations of the RTI (2002), the Australian Government response, and the implementation activities conducted solely to implement the response.

This information, provided in tabulated form in this appendix, shows the historic perspective of the priorities of the day and how they were dealt with by the Australian Government.

Other initiatives, which are not directly related to the 2002 recommendations, have also occurred and are outlined in Appendix F. The Committee acknowledges these additional efforts of the Australian Government.

Rec No.	RTI Recommendation	Australian Government response	Implementation activities conducted solely to implement the response.
2.1	Telstra should continue to work with representatives of people with disabilities to resolve any service concerns, and consider their practical suggestions for service improvements. The Government should consider any national policy issues raised with the Inquiry, relating to access to telecommunications for people with disabilities.	Telstra will work with representatives of people with disabilities to resolve any services concerns. The Department of Communications, Information Technology and the Arts (DCITA) will report to Government on the outcomes of work between Telstra and people with disabilities, and will consider the implications of that work for national policy settings.	Telstra addressed disability issues raised in the RTI through its various long standing consultation mechanisms for people with disabilities. These consultation mechanisms include the Telstra Disability Forum, Disability Equipment Program Consumer Advisory Group and Payphones Working Group. As at June 2004 it appeared that Telstra had fulfilled and in some cases had exceeded its legal requirements under the <i>Disability Discrimination Act 1992</i> and as the universal service provider.
2.2	The Government should review arrangements for the costing and funding of the Universal Service Obligation (USO). This should also include assessing whether current arrangements are impeding the development of competition in regional, rural and remote Australia.	The Government will undertake a review of the Universal Service Obligation as required by section 159A of the <i>Telecommunications (Consumer Protection and Service Standards) Act 1999</i> .	DCITA conducted a review of the USO and the USO Review Report was tabled in Parliament on 17 June 2004. The review found that the USO was meeting its legislative objectives. The Government responded to a number of the review's recommendations on 17 June 2004. The Government responded by announcing that it would not change the broad legislative framework and that it would consider other ways to respond to the concerns raised about USO subsidy setting arrangements.
2.3	Where extreme cases of customer service guarantee (CSG) non-compliance arise (i.e. more than five working days late), they should receive direct priority attention by the service provider, and should be notified to ACMA and/or the Telecommunications Industry Ombudsman as technical breaches of the CSG.	The Government will ensure that service providers give direct priority attention to cases of extreme CSG non-compliance and that they are reported in a timely way to ACMA.	The CSG sets timeframes for the connection and repair of the standard telephone service supplied to residential and small business customers. 'Extreme' failure to meet the CSG is where service provision or repair exceeds the CSG standard timeframes by more than five working days. ACMA examined and reported in September 2003 to the Minister on the monitoring and reporting framework for addressing individual cases of extreme failure under the CSG. ACMA has undertaken to monitor activities to ensure that service providers give direct priority attention to cases of extreme CSG failure and reports on carriers' performance in its quarterly <i>Telecommunications Performance Monitoring Bulletin</i> .

Rec No.	RTI Recommendation	Australian Government response	Implementation activities conducted solely to implement the response.
2.4	<p>Telstra should report publicly on the outcome of its trial with the National Farmers' Federation to reduce connection times in minor rural and remote areas where infrastructure is not readily available, and identify what follow-up commitments it will make. Should the Telstra trial not lead to a significant and ongoing improvement in service outcomes in this area, the Government should review regulatory arrangements, including CSG timeframes and interim service arrangements, to assess whether further changes to timeframes are appropriate.</p>	<p>Telstra has already made a voluntary commitment to reduce connection times in areas where infrastructure is available in minor rural areas from 15 to 10 working days, and in minor rural and remote areas where there is no cable infrastructure available from 130 working days to 20 working days. This commitment is already enforceable under the CSG.</p>	<p>New CSG standards for reduced timeframes for the connection of standard telephone services (STS) in minor rural and remote areas were developed. The new timeframes took effect on 1 January 2003.</p> <p>Telstra, the Primary Universal Service Provider, amended its Standard Marketing Plan (SMP) to reflect its voluntary reduction of CSG connection timeframes.</p>
2.5	<p>Telstra should report to the Government on the outcome of its project to improve the coordination of new service connections. The impact of any changes should be monitored with a view to determining the need for any further follow-up action.</p>	<p>Telstra will provide Government with a report on the outcomes of its project to improve coordination for new service connections. Monitoring arrangements will be established to determine the need for any follow-up action.</p>	<p>A report explaining Telstra's revised arrangements for coordinating new service connections and informing the public about how services are being improved was provided and was published on the DCITA website.</p> <p>ACMA has found the new pre-provisioning arrangements have led to the reduction or removal of delays a customer may experience when requesting a new service connection at a newly constructed premise. ACMA continues formal monitoring of these arrangements.</p>
2.6	<p>The Government should examine the issue of network extension and trenching costs, to consider whether such costs should be removed from subscribers, and either borne by Telstra as part of its USO provision, or supported by the Government through subsidies.</p>	<p>The Government will undertake a review of network extension and trenching costs, including considering how such costs should be recovered.</p>	<p>These issues were examined by a review of the USO and CSG in June 2004. The Government decided that it would not change arrangements for trenching. Telstra now ensures that network extension charges are clearly communicated to the customer, and that the charges are applied in a consistent and transparent manner.</p>

Rec No.	RTI Recommendation	Australian Government response	Implementation activities conducted solely to implement the response.
2.7	<p>Telstra should promptly confirm to the Government that it has an effective strategy for improving as soon as possible the quality of telephone services affected by the use of 6/16 and similar pair gain systems. Telstra should give a formal undertaking to the Government, including providing timeframes, in relation to any actions required to implement such a strategy. Progress in meeting this strategy should be monitored by ACMA and reported on publicly.</p>	<p>Telstra will provide the Government with a formal undertaking on its strategy, including timeframes, to improve, as soon as possible, phone services affected by the use of 6/16 and similar pair gain systems. Progress in meeting the strategy will be monitored by ACMA and reported publicly.</p>	<p>A Deed of Undertaking between the Government and Telstra about Telstra's strategy, including timeframes, to improve, as soon as possible, phone services affected by the use of 6/16 and similar pair gain systems was executed on 19 December 2003. The undertaking provided that Telstra achieve the target level of service by 31 December 2008. Telstra reports on its progress under the deed on an annual basis.</p>
2.8	<p>Telstra should provide a formal undertaking to the Government to complete its upgrade of older radio concentrator systems (ARCS and DRCS) under its Remote Areas Telecommunications Enhancement (RATE) program, and according to a publicly available timetable.</p>	<p>Telstra will provide the Government with a formal undertaking on the timing of the completion of the upgrade of its remaining older radio concentrator systems under its RATE program. The timetable will be publicly available.</p>	<p>A Deed of Undertaking between the Government and Telstra on the timing of the completion of the upgrade of its remaining older radio concentrator systems under its RATE program was executed on 4 September 2003. The Undertaking requires Telstra to:</p> <ul style="list-style-type: none"> • upgrade its fixed network by replacing the ARCS and DRCS systems with Alternative Access Technologies under its RATE program within 180 days of the completion of the Extended Zones Agreement, and • report on its progress in upgrading its fixed network to ACMA.

Rec No.	RTI Recommendation	Australian Government response	Implementation activities conducted solely to implement the response.
2.9	<p>To immediately target the worst performing Exchange Service Areas (ESAs) in regional, rural and remote Australia, the Government should require ACMA to identify these ESAs as soon as possible after the Network Reliability Framework (NRF) commences in January 2003. Telstra should then be required to provide a formal undertaking to the Government on its strategy for raising the performance of these ESAs. Telstra's strategy should include specific timeframes and commitments of funding, and its implementation should be monitored and publicly reported by ACMA.</p>	<p>The Government has written to ACMA asking it to identify the worst performing ESAs under the NRF, and ensure that Telstra improves the performance of these ESAs. Telstra will provide the Government with a formal undertaking on its strategy to improve the performance of these ESAs, including a timetable and funding commitments.</p>	<p>A Deed of Undertaking between the Government and Telstra on Telstra's strategy to improve the performance of its worst performing ESAs was executed on 2 March 2004. Using the NRF, and Telstra data and information, ACMA identified 54 ESAs in regional, rural and remote Australia requiring remediation for improved network reliability and service performance. Telstra submitted 223 remediation plans to ACMA, outlining the work to be done in relation to the 54 ESAs. ACMA approved all the plans. Telstra completed all work in relation to the 223 remediation plans covering the 54 ESAs by 30 June 2004. As required by the Deed of Undertaking, Telstra provided performance reports for each remediated area to ACMA. The NRF continues to monitor and improve the reliability of Telstra's fixed line network.</p>
2.10	<p>The Government should adjust and refine the NRF as necessary over time to improve its operation. These refinements should include expanding the range of fault information provided under the NRF, and providing greater clarity for Telstra and regional, rural and remote consumers about strategies to improve reliability under the Framework.</p>	<p>ACMA will continue to refine the NRF as necessary to ensure that it provides an effective mechanism for improving the reliability of Telstra's telephone network.</p>	<p>ACMA completed a review of the NRF in November 2004 and undertook further consultations with DCITA and Telstra, throughout the first half of 2005. ACMA found that Telstra's network and services are generally reliable for customers, with metropolitan areas having more reliable services than Australians living in regional, rural and remote areas. ACMA made a number of recommendations aimed at improving the operation of the NRF, with a particular focus on improving repairs in regional, rural and remote Australia. On 8 September 2005, the Government announced that it would strengthen the NRF to ensure that the most unreliable parts of Telstra's network, across Australia, are fixed quickly and efficiently. Changes to the NRF to better target poorly performing parts of Telstra's network in regional, rural and remote areas took effect from 1 October 2006.</p>

Rec No.	RTI Recommendation	Australian Government response	Implementation activities conducted solely to implement the response.
2.11	<p>Telstra should be required to better inform the public about its policies for providing payphones, including ensuring that criteria for providing payphones are clearly and simply stated. Telstra's criteria and processes for payphone installation decisions should be reviewed by the Government. The Government should establish a clear policy on future payphone availability.</p>	<p>Telstra will take steps to better inform the public about its payphone policies.</p> <p>The Government will work with Telstra and ACMA to review payphone policy and ensure that the provision of payphones under the USO continues to be effective and relevant.</p>	<p>ACMA conducted a review of payphone policy in early 2004. Its report, tabled in Parliament on 31 March 2004, included 33 recommendations to improve payphone service levels for consumers, notably people with a disability and remote Indigenous communities, and fine tune the current payphone arrangements.</p> <p>The Government responded to the report on 2 March 2005, accepting ACMA's recommendations to further enhance the payphone service and ensure its effectiveness and relevance to all Australians.</p> <p>Of the recommendations made in the payphone policy review, two recommendations were not accepted and one required no action. The Government allocated \$36.6 million to the telecommunications services component of the Backing Indigenous Ability Program. A significant proportion of this funding will be directed to extending the Community Phones program in remote Indigenous communities.</p> <p>AMCA approved variations to Telstra's SMP on 30 June 2005. The variations, relating to making the process for installing, removing and relocating public payphones more transparent, address 11 recommendations of the Payphone Review Report. In response to Telstra plans to rationalise its payphone network, in June 2006 the Government announced a package of initiatives to provide customers with a better understanding of their rights in relation to payphone services, improve Telstra's processes for the removal of payphones, and improve consumer access to ACMA in its compliance role</p>
2.12	<p>The sites of Telstra-operated payphones, together with the numbers of payphones at each site, should be made publicly and readily available. Consideration should be given to including payphone locations at least in local telephone directories in regional areas.</p>	<p>As in 2.11 above.</p>	<p>Telstra developed an online mapping application that identifies the location of its public payphones</p>

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2.13	Telstra should report as soon as possible to the Government on the causes of low levels of performance in meeting payphone repair timeframes, and put forward a strategy for raising performance to an acceptable level, particularly in remote areas and Indigenous communities.	As in 2.11 above.	<p>A key aspect of the strategy required Telstra to develop and deploy a series of modifications to payphone hardware and software to provide new features such as SMS, and improved performance, durability and diagnostics. Since 2004, over 10 000 payphones in rural and remote localities across Australia have been upgraded.</p> <p>The upgraded payphones offer new features such as SMS, new software and diagnostic alarms, improved climatic protection, and many hardware modifications to improve payphone performance and durability. 235 TTY payphones were upgraded Australia-wide with new 'How to Call' guides, and new hardware and software features, including SMS.</p> <p>Improved training and support has been provided for Telstra's field technicians, involving training courses for front-line staff who repair payphones on a daily basis.</p>
2.14	The Government should review the provision of payphone services to people with disabilities. In particular it should take steps to ensure that competition in the supply of payphones does not impact adversely on access to teletypewriter payphones.	As in 2.11 above.	<p>The Government's response of 2 March 2005 to ACMA's review of payphone policy noted that implementation of a number of the recommendations would lead to better services and information for payphone users who have a disability, through the development of a Payphone Accessibility Code.</p> <p>As part of its continuing work with people with disabilities, Telstra, with the assistance of members of the Telstra Disability Forum, prepared a draft industry code for payphone accessibility. The draft code was submitted to the Australian Communications Industry Forum (ACIF) for consideration as the basis for a new industry code. The code outlines standards for payphone design, height, booth access, instruction notices and lighting, as well as other issues.</p> <p>Following the release of ACMA's Payphone Policy Review, ACMA wrote to the Minister in December 2005 proposing that ACIF develop a Payphone Accessibility guideline rather than a code. The Minister agreed with this approach. ACIF released a draft Accessibility of Payphones Industry Guideline (DR ACIF G629:2006) in July 2006. Public comment closed 18 August 2006. The final Guideline (ACIF G630:2006) is available on the Communications Alliance website (www.commsalliance.com.au)</p>

Rec No.	RTI Recommendation	Australian Government response	Implementation activities conducted solely to implement the response.
3.1	<p>The Government, in conjunction with the carriers, should identify areas where extending terrestrial mobile phone service is still feasible through Government support for capital costs. The Government should consider providing funding support to such areas, which might include small population centres and key highways in regional areas.</p>	<p>The Government has allocated \$15.9 million over four years to extend terrestrial mobile phone services to smaller communities and regional highways where additional coverage is feasible with Government support for capital costs.</p>	<p>A competitive tender process for a carrier to implement the mobile phone coverage expansion program was conducted from 15 April to 7 June 2004. Telstra was the successful tenderer. An Agreement between the Government and Telstra was signed on 13 August 2004. Telstra completed the program in June 2007.</p>
3.2	<p>The Government should consider extending the scope of its satellite phone subsidy scheme to cover all users with an appropriate need for a satellite service, and provide sufficient funds to meet full demand for the scheme.</p>	<p>The Government has allocated a further \$4.0 million over four years to extend the subsidy. The Government will undertake a review of the eligibility guidelines of the current satellite handset subsidy scheme.</p>	<p>A further \$4.0 million over four years was allocated to the Satellite Phone Subsidy Scheme (SPSS). DCITA conducted a review, including a public consultation process, of the eligibility guidelines for the SPSS during the second half of 2003 and reported on 23 December 2003. After considering the report, the Government decided to expand the SPSS. The revised scheme commenced on 4 March 2004.</p>
3.3	<p>The Government and industry should inform consumers about mobile phone services, including technology and coverage limitations, fees and charges, mobile number portability, and contract issues. ACMA's Mobile [phone] Tool Kit has provided a valuable resource in this respect.</p>	<p>The Government will ensure that ACMA provides comprehensive and relevant information to consumers on mobile phone services, including technology and coverage limitations, fees and charges, mobile number portability and contract issues.</p>	<p>AMCA published a modified Teacher Tool Kit and distributed it to 2500 secondary schools during March / April 2004. The Teacher Tool Kit is a classroom resource for teachers, designed to help students understand their rights and responsibilities and manage their personal finances in relation to telecommunications, including encouraging students to consider various issues related to the use of mobile phones.</p>

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4.1	<p>The benefits provided by the Internet Assistance Program for users of dial-up internet services should be guaranteed into the future. A licence condition should be placed on Telstra that would require all Australians to be guaranteed dial-up internet speeds, or equivalent throughput, over the Telstra fixed network of at least 19.2kbps. As part of the licence condition Telstra should be required to report on its compliance with the requirement, and more generally on the data speed performance of its regional network, which should be maintained at least at current levels.</p>	<p>The Government will impose a licence condition on Telstra to provide a minimum dial-up internet speed for all Australians of 19.2kbps or equivalent throughput over its fixed line network.</p>	<p>A Licence Condition was imposed on Telstra requiring it to provide a minimum dial-up Internet speed for all Australians of 19.2kbps or equivalent throughput over its fixed line network. The Licence Condition, known as the Internet Assistance Program (IAP) Licence Condition, came into force on 8 October 2003.</p>
4.2	<p>Telstra should be required to demonstrate that it has an effective strategy to address any dial-up data speed issues arising from poorly performing pair gain systems. Telstra should provide a formal undertaking to the Government in relation to any actions necessary to implement such a strategy.</p>	<p>Telstra will provide the Government with a formal undertaking on implementation of a strategy to address dial-up data speed issues arising from poorly performing pair gain systems.</p>	<p>A Deed of Undertaking between the Government and Telstra on Telstra's implementation of a strategy to address dial-up data speed issues arising from poorly performing pair gain systems was executed on 7 July 2004.</p> <p>The Deed of Undertaking covers three aspects:</p> <ul style="list-style-type: none"> Telstra will maintain processes to ensure that pair gain systems operate to their design level of performance. Telstra will undertake additional network activities in some instances where Internet Assistance Program (IAP) customers may not be able to achieve 19.2kbps minimum equivalent throughput (MET) due to causes within Telstra's fixed network. Telstra will assist customers who are achieving data speeds in excess of the IAP minimum equivalent throughput but who are not achieving the maximum dial-up data speed possible using their existing modem or computer configurations.

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5.1	Telstra should place a high priority on the provision of payphones, or alternative community phone systems, in those remote Indigenous communities currently without access to telecommunications of any kind.	The Government will work with Telstra to ensure it adequately fulfils its obligation to provide payphones under the universal service Telecommunications Action Plan for Remote Indigenous Communities (TAPRIC) program the Government will offer community phones to remote Indigenous communities currently without access to telecommunications services.	A high-level Steering Group consisting of DCITA, ACMA and Telstra was formed to implement an overall strategic framework for the provision of services to remote Indigenous communities. Telstra completed the installation of payphones at 62 priority sites in remote Indigenous communities identified by DCITA. In conjunction with the Centre for Appropriate Technology, Telstra has developed an alternative and simpler community phone which can be made available at all times using pre-paid phone cards. The \$3 million Community Phones Program (under TAPRIC) involving trials of the above phone and new pre-paid services in targeted remote Indigenous communities that have few or no public phone facilities commenced in May 2005. The CPP resulted in 217 community phones installed at 133 remote Indigenous communities. The information gathered as a result of the CPP trial is being used to implement a further phone element under the Government's \$36.6 million telecommunications funding under the Backing Indigenous Ability program.
5.2	Telstra should commit to improving the delivery of appropriate USO services to remote Indigenous communities, particularly through the deployment of specialised call centre staff and Indigenous liaison officers.	The Government will work with Telstra to improve delivery of USO services to remote Indigenous communities, including through the deployment of specialised call centre staff and Indigenous liaison officers.	Telstra developed prepaid calling card and home phone products for use in remote Indigenous communities. Telstra set up an Indigenous call centre in Townsville and a call centre in Darwin that incorporates an Indigenous group. An Indigenous group was also established in Telstra's Perth call centre. Telstra also established a National Indigenous Directorate in Darwin.

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5.3	<p>There should be more effective data collection and monitoring of telecommunications needs and services in remote Indigenous communities. ACMA should take a leading role in this area.</p>	<p>The Government will work with Telstra, ACMA and the Aboriginal and Torres Strait Islander Commission, under the TAPRIC program, to improve data collection on the telecommunications needs and services in remote Indigenous communities.</p>	<p>ACMA developed and implemented a new monitoring and reporting framework that includes improved data collection provisions to capture specific information about telecommunications services in remote Indigenous communities. Telstra, DCITA and ACMA established a database to record data on Telstra's provision of telecommunications services to remote Indigenous communities. The database was populated with information in 2003.</p>
5.4	<p>The Government should consider providing ongoing support for IT training and support services in rural and remote areas of Australia, where there are not the same opportunities as in urban areas. Further support should build on existing programs, such as Networking the Nation and State and Territory based initiatives.</p>	<p>The Government has allocated \$10.1 million over four years for training and support in information technology skills for rural and remote communications users.</p>	<p>Nine projects in very remote areas of Australia were funded under the IT Training and Technical Support Program.</p>
5.5	<p>All tiers of government should work together to support online access centres in regional, rural and remote Australia, and to enable these important community facilities to remain viable.</p>	<p>The Government will work with the Online Council on strategies to maintain the viability of online access centres, including those in remote Indigenous communities.</p>	<p>The Online Council set up the Online Access Centres (OAC) Sustainability Working Group in March 2004. The Working Group identified and implemented a number of short, medium and long term strategies to provide solutions to the barriers to sustainability faced by many OACs in regional, rural and remote Australia. The Working Group reported to the Online Council in August 2005. The report emphasised the importance of OACs as community resources that provide unique economic and social benefits, beyond simply providing IT access and training. The report also pinpointed commonalities and patterns influencing the successful and viable operation of OACs, as well as the unique differences (such as location and communities) between OACs.</p>

Rec No.	RTI Recommendation	Australian Government response	Implementation activities conducted solely to implement the response.
6.1	<p>The Government should investigate whether the timeframes for connection and repair of ISDN services that are required under the Digital Data Service Obligation (DDSO) should be more closely aligned with regulated timeframes applying to telephone services.</p>	<p>The Government will investigate the suitability of current timeframes for connection and repair of ISDN services.</p>	<p>Telstra is the declared General Digital Data Service Obligation and Special Digital Data Service Obligation provider. Telstra reduced the connection timeframes for ISDN services and BigPond™ Broadband 1-Way Satellite services for all orders taken on and after 1 October 2003. Repair timeframes for ISDN services were aligned with repair timeframes for standard telephone services. Variations to Telstra's General Digital Data Service (GDDS) Plan and the Special Digital Data Service Plan were gazetted on 9 June 2004.</p>
6.2	<p>Some Telstra pricing arrangements for ISDN services seem discriminatory, and would appear to unduly favour Telstra over other providers. This should be brought to the attention of the Australian Competition & Consumer Commission (ACCC).</p>	<p>The Government will seek formal advice from the ACCC on ISDN pricing arrangements, and whether they unduly favour Telstra over other providers.</p>	<p>The ACCC conducted an investigation and reported the outcome on 15 October 2003.</p>
6.3	<p>The Government should establish an incentive scheme for the provision of higher bandwidth services to regional, rural and remote areas, to enable all Australians to have access to services at prices comparable to those prevailing in metropolitan areas. A preferred model for the scheme is provided in this report.</p>	<p>The Government has allocated \$107.8 million over four years for a Higher Bandwidth Incentive Scheme (HiBIS).</p>	<p>The \$107.8 million, four year HiBIS commenced on 8 April 2004 with the launch of its Guidelines and the call for registration of participating ISPs. On 7 July 2005, the Government committed an extra \$50 million to HiBIS in response to the customer demand for HiBIS services, bringing the total value of HiBIS to \$157.8 million.</p>

Rec No.	RTI Recommendation	Australian Government response	Implementation activities conducted solely to implement the response.
6.4	<p>The Government should provide further support to communities to undertake demand aggregation strategies, and other activities that would support the take-up of higher bandwidth services. Support should also be considered to assist consumers and small businesses to make effective use of higher bandwidth opportunities.</p>	<p>The Government will establish a National Broadband Strategy Implementation Group (NBSIG) to oversee the development of the National Broadband Strategy and demand aggregation strategies. The Government will contribute \$8.4 million over four years to demand aggregation brokers to work with communities to aggregate regional demand for higher bandwidth services in line with strategic priorities agreed by the NBSIG. The Government will allocate \$23.7 million for a Coordinated Communications Infrastructure Fund (CCIF) to foster the formation of demand aggregation arrangements that address strategic priorities agreed by the NBSIG.</p>	<p>The NBSIG developed a National Broadband Strategy in consultation with key stakeholders. The Strategy was published on 3 March 2004.</p> <p>A series of Action Plans, including the <i>NBSIG Government Action Plan</i> released in February 2005 and the <i>Australian Government Action Plan</i>, released on 10 February 2005, outline activities to achieve the objectives in the strategy.</p> <p>As part of the implementation of the National Broadband Strategy, three NBSIG working groups were established by February 2005 to support a coordinated approach to broadband policy and infrastructure development in Australia. The groups were the Measurement Working Group, Digital Content Working Group, and Next Generation Networks Working Group. The NBSIG Working Groups were made up of representatives of the Australian Government, and all state, territory and local governments.</p> <p>The \$8.4 million three-year Demand Aggregation Brokers program commenced operating in January 2004. National broadband advisers for education and health were appointed, along with six state brokers and 24 community brokers. All activities under this Program were completed by 30 June 2006. The CCIF Program commenced in April 2004. The Program promoted a collaborative approach to infrastructure investment to improve communications services in health and education. Grants were awarded to 13 successful projects under two separate competitive funding rounds held in March 2004 and again in March 2005.</p>

Rec No.	RTI Recommendation	Australian Government response	Implementation activities conducted solely to implement the response.
7.1	<p>Measures should be taken to provide telecommunications consumers with a simplified statement of their legislated rights, and to get the message to them more effectively. A one-page Summary of Telecommunications User's Rights is recommended. The Government should explore all relevant channels to ensure that information is provided to consumers where and when they most need it.</p>	<p>ACMA will provide further information to consumers on their legislated rights.</p>	<p>ACMA published a Summary of Telecommunications User's Rights in January 2004, and updated and re-published its consumer Tool Kit series.</p>
7.2	<p>Data on telecommunications compliance and performance should be collected at an appropriate level of disaggregation to allow ready assessment of relative performance levels. ACMA should put in place a data collection framework, to ensure comprehensive, disaggregated, standardised and meaningful collection of data on regional, rural and remote telecommunications services and service performance.</p>	<p>ACMA will establish an integrated framework for the collection of data on telecommunications services and service performance.</p>	<p>ACMA developed new data collection measures that focus on regional, rural and remote telecommunications.</p>
7.3	<p>ACMA should examine how it can best communicate to the public and consumer representatives its regulatory philosophy and approach, and examine whether and how it should provide greater clarity and certainty about its regulatory enforcement activities.</p>	<p>ACMA will clarify its regulatory philosophy and approach for consumers.</p>	<p>ACMA published its regulatory philosophy and compliance policy on its website on 16 December 2004.</p>

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8.1	<p>Telstra should be required to maintain an ongoing local presence in regional, rural and remote Australia. The requirement should only apply to Telstra consistent with its status as the primary universal service provider. The requirement should not be unduly prescriptive or burdensome, and should be broadly compatible with Telstra's commercial interests.</p>	<p>The Government will impose a licence condition on Telstra to maintain a local presence in regional, rural and remote Australia, including through developing a local presence plan, and reporting publicly on its achievements against the plan.</p>	<p>A licence condition requiring Telstra to maintain a local commercial presence in regional, rural and remote Australia (the local presence obligation) came into effect in August 2005. The Licence Condition also requires Telstra to have a current local presence plan that sets out the activities and strategies that Telstra will deploy in fulfilling the local presence obligation.</p>
8.2	<p>Telstra should be required to develop and publish a local presence plan to set out the range of activities and strategies it would deploy in regional Australia to address the Government's broad objectives. Telstra would be required to regularly report on its achievements against the plan and to demonstrate to the Government, and to regional communities, that it was providing an effective and beneficial local presence.</p>	<p>As for 8.1 above</p>	<p>Telstra developed a local presence plan which came into effect from 1 July 2006 and will be in force until July 2009. Telstra will be required to revise its plan and re-submit it for approval every three years. The local presence plan was published on both the Telstra and ACMA websites. Telstra must report annually to the Minister and to ACMA on the progress of its local presence plan.</p>

Rec No.	RTI Recommendation	Australian Government response	Implementation activities conducted solely to implement the response.
9.1	<p>The Government should put in place a process to regularly review telecommunications services in regional, rural and remote Australia, and to assess whether important new service advancements are being delivered equitably in those areas.</p> <p>The review process should be linked to a strategic plan for regional telecommunications, and underpinned by ongoing arrangements that provide a high degree of certainty that Government funds will be made available to support service improvements in regional, rural and remote Australia, where they will not be delivered commercially within a reasonable timeframe.</p>	<p>The Government will legislate to require regular reviews on the adequacy of services in regional, rural and remote Australia to be undertaken by an independent expert panel appointed by the Minister for Communications, Information Technology and the Arts. Reviews will be structured and carried out in line with RTI Recommendations 9.2, 9.3 and 9.4, and must be undertaken no later than five years apart.</p> <p>The Government will develop a strategic plan for regional telecommunications in consultation with key stakeholders.</p>	<p>The <i>Telecommunications Legislation Amendment (Future Proofing and Other Measures) Act 2005</i> that includes provisions for independent reviews of regional telecommunications (Schedule 2 of the Bill), was passed by the Senate on 14 September 2005 and by the House of Representatives on 15 September 2005.</p> <p>The development of the Strategic Plan for Regional Telecommunications commenced in October 2003 with the release of a public discussion paper and has been concluded. The Strategic Plan was not publicly released but was a dynamic document, regularly updated.</p>
9.2	<p>Establishing a structure for future reviews of regional, rural and remote telecommunications services should:</p> <ul style="list-style-type: none"> • provide certainty for regional, rural and remote communities • ensure that reviews are independent from executive government • allow for flexible and appropriate policy responses to meet the range of needs in regional, rural and remote Australia, and • promote competition and commercial service delivery as the most effective and sustainable service outcome. 	See 9.1	<p>The <i>Telecommunications Legislation Amendment (Future Proofing and Other Measures) Act 2005</i> that includes provisions for independent reviews of regional telecommunications (Schedule 2 of the Bill), was passed by the Senate on 14 September 2005 and by the House of Representatives on 15 September 2005.</p>

Rec No.	RTI Recommendation	Australian Government response	Implementation activities conducted solely to implement the response.
9.3	The scope of regular reviews of regional, rural and remote telecommunications services should be flexible, but there should be a core focus on assessing whether important new telecommunications services are available equitably across Australia.	See 9.1	As per Recommendation 9.2
9.4	Future governments should be legally obliged to respond publicly to the recommendations of future reviews, and to justify responses that are not in accord with review recommendations.	The legislation referred to in 9.1 above, will specifically require the reports of the reviews to be tabled in Parliament and require the Government to prepare a formal, public response to the report's recommendations.	As per Recommendation 9.2
9.5	The Government should provide funding for future service improvements in regional, rural and remote Australia, rather than imposing financial obligations on industry.	The Government accepts the principle that support for non-commercial service improvements in regional Australia should be provided transparently by the Government, and should aim to promote competition and minimise market distortions.	The Government has demonstrated its commitment to providing affordable telecommunications services to all Australians regardless of where they live by funding non-commercial services in regional, rural and remote Australia.
9.6	The Government should ensure that regular reviews of regional telecommunications services are supported by organisational arrangements that provide a strong focus on monitoring and assessing regional, rural and remote service levels. ACMA would be an appropriate body to undertake this function.	Both the DCITA and ACMA will continue to focus strongly on regional telecommunications issues, including through ongoing improvements to monitoring and assessing regional, rural and remote service levels.	As per Recommendations 9.2 and 7.2.

RTI Community Information Campaign

Rec No.	RTI Recommendation	Australian Government response	Implementation activities conducted solely to implement the response.
None	N/A RTI Finding 5.7 refers	<p>Additional response: The Government will support an information campaign to inform regional consumers of their rights and the assistance available to them from Government support programs under the RTI response.</p>	<p>The Government initiated a television, radio and newspaper campaign providing relevant information to consumers. The media campaign ended in early July 2004. A series of regional briefings, focussing primarily on broadband, an Indigenous Telecommunications Forum and a mail out of information posters, fact sheets and a consumer rights booklet focussed on remote Indigenous communities was also conducted, with the last activities concluding in mid 2005.</p>

Australian Communications and Media Authority (ACMA) was formed 1 July 2005, combining the former Australian Communications Authority (ACA) and the former Australian Broadcasting Authority (ABA). Throughout this document, only the name ACMA is used.