



Australian

TELECOMMUNICATIONS

2002

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Australia's strategies for Telecommunications

Telecommunications in Australia

The Commonwealth Government recognises that all Australians, no matter where they live, need high quality telecommunications services to fully participate in both business and community life. This document describes the policy framework for encouraging and supporting the growth of telecommunications services in Australia, and summarises how services have developed over recent years.

Several key strategies have been pursued to improve telecommunications in Australia:

- in 1997 the market was opened to full competition, resulting in new suppliers and services, lower prices and greater choice for consumers;
- consumer protection measures have been improved with the introduction of the Customer Service Guarantee (CSG), the upgrading of the Universal Service Obligation (USO), legislated rights to untimed local calls and the introduction of a Network Reliability Framework (NRF);

- more than \$1 billion in targeted funding has supported the development of sustainable improvements in communications and IT infrastructure and in service delivery, particularly in rural and regional areas; and
- information and advice has been provided to consumers and communities while coordination with State and local governments and regional development organisations has been fostered to develop a more consistent approach to service improvements.

An open and competitive market

Highlights since 1997:

- New investment in the telecommunications sector has totalled more than \$19.7 billion.
- More than 80 new carriers using a range of new technologies, and over 850 service providers have entered the market.
- 40 per cent of these carriers are focussing on regional areas.
- Prices for consumers have fallen by an average of 6.9 per cent per annum.

A wider range of services is being offered to Australian consumers across fixed and mobile phone services, Internet and other data services. There have been reductions in prices across many services, and improvements in service quality and service features.

The Australian Communications Authority (ACA) identified an annual benefit to consumers from changes to telecommunications services of up to \$12 billion in 2000–01. (*2000–01 Telecommunications Performance Report*).

A fair go for consumers

Highlights:

- Improvements to the Universal Service Obligation (USO).
- Introduction and tightening of the Customer Service Guarantee (CSG).
- Price controls on Telstra.
- Introduction of a Network Reliability Framework (NRF).

Because of the importance of telecommunications services to all Australians, a range of laws have been put in place, primarily relating to fixed telephone services, to ensure equitable availability, quality and pricing. These laws include:

- The USO which requires telephone services to be provided and specifies connection times;
 - connection times have been tightened and interim services introduced;
- the CSG which protects consumers against delays in repairing faults on fixed lines or delays in connecting a service;
 - time frames under the CSG have also been tightened;
- price control legislation on Telstra which helps consumers to benefit from improved efficiency;
- a NRF to identify and remedy problem areas in Telstra's telephone network, including at the individual service level.

Safeguards also extend to untimed local calls for voice and data calls for residential customers, untimed local voice calls for business, emergency call services, privacy, and itemised billing. The independent regulator, the Australian Communications Authority (ACA), enforces these obligations.

There is also an independent Telecommunications Industry Ombudsman (TIO), who is available to consumers who believe they are unfairly treated by telecommunications companies.

In addition, there are a number of voluntary industry codes of practice that have been developed by the Australian Communications Industry Forum, that address issues such as complaints handling.

These consumer safeguards are discussed in greater detail in the Fixed Phone section of this document.

Targeted funding to improve services

Highlights from targeted funding programs have included:

- More than \$1 billion to improve communications and IT services.
- 779 new mobile phone towers and repeaters have extended coverage of Australia's landmass. Terrestrial mobile coverage of 13.7 per cent will increase to nearly 18 per cent—98 per cent of Australia's population—once current programs are completed.
- Consumers in the 'Extended Zones', which cover 80 per cent of Australia's landmass, now have access to untimed local calls and new broadband services.
- Extending broadband services for delivery of education and health services in regional areas through the National Communications Fund.

Because populations are sparse and the costs of providing service are high, communities in rural and remote parts of Australia have faced barriers in gaining access to services, training and skills development. To address this, a number of investment programs have been put in place, with two key guiding principles:

- sustainability: funding support should be aimed at stimulating commercial activity, and delivering ongoing and economically sustainable services; and
- community priorities: enabling communities to help set their own priorities for service delivery, and encouraging active involvement by communities.

Key initiatives include:

- Networking the Nation: \$250 million from the first partial sale of Telstra in 1997 for projects that help bridge the gaps in telecommunications services, access and costs between urban and non-urban Australia. These projects have varied from large whole-of-State infrastructure projects run by State governments, to small local projects run by small community organisations. Funds have provided capital support to 'kick-start' delivery of new services and to accelerate the provision of commercial services.

- Networking the Nation was boosted by the Social Bonus package funded from the second partial sale of Telstra in 1999. This provided a further \$174 million targeted at improving Internet infrastructure, building new phone networks in regional areas, boosting the capacity of local government networks, and supporting the telecommunications needs of remote island communities.
- A number of other Social Bonus projects in addition to the Networking the Nation program have included:
 - \$150 million to upgrade the telephone network in Telstra's Extended Zones, and to provide untimed local calls to these areas;
 - \$25 million to provide continuous mobile coverage on key national highways;
 - \$120 million to improve television coverage in regional and rural Australia; and
 - \$70 million to establish a network of transaction centres in rural towns, to improve the delivery of banking, financial and other services to these communities.
- In 2001, the Government allocated further funding to provide for additional improvements to regional and rural mobile, Internet and health and education networks as part of its response to the Telecommunications Service Inquiry (TSI), or Besley report. The TSI response is described in greater detail later in this document.
- In 2002, the government allocated \$8.3 million over three years as part of a Telecommunications Action Plan for Remote Indigenous Communities. The package includes a community phone program, online access centre business study, Internet access and content development programs as well as raising awareness of telecommunication services.

Information for consumers and telecommunications stakeholders

Highlights:

- Comprehensive information to consumers on regional communications available through the *New Connections* website and hotline.
- Increase in consumer advice provided by the ACA and telecommunications companies.

One of the key messages from the TSI report was that some consumers are not aware of the rights available to them as telecommunications users, and of the growing range of commercial service offerings available.

To promote the provision of better information to consumers, the *New Connections* website www.newconnections.gov.au and hotline 1800 883 488 was launched in September 2001. *New Connections* is a regional communications portal, supported and contributed to by State, Territory and local governments through the Online Council of Ministers, and by industry and regional communities. It provides regional stakeholders with one-stop access to information on regional communications, including consumer rights, government programs and commercial service offerings.

The ACA is increasing its consumer advice role, as part of the TSI response. In addition, the ACA is working with industry to improve the way commercial providers inform consumers of their services, terms and conditions, and pricing plans.

On 16 August 2002, the Government announced a Regional Telecommunications Inquiry to look at whether telecommunications services to regional, rural and remote areas of Australia are adequate and whether additional arrangements are needed to ensure all Australians continue to share in the benefits of further service improvements and developments in technology. The Regional Telecommunications Inquiry (RTI), headed by Mr Dick Estens, will report to the Minister for Communications, Information Technology and the Arts by 8 November 2002.

The RTI follows the Telecommunications Service Inquiry which reported to Government in September 2000.

Telecommunications Service Inquiry and the Government's Response

The Telecommunications Service Inquiry (TSI), chaired by Mr Tim Besley AO, was established in 2000 to independently assess the adequacy of telecommunications services across Australia.

In its report, the TSI found 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. However, it also found that a significant proportion of those who live and work in rural and remote Australia had concerns about key aspects of services that were not considered adequate. Their concerns related 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.

A number of initiatives have been put in place in response to the TSI recommendations and other concerns.

Initiative 1: Improved service connection and repair times.

The maximum telephone service connection time in remote areas has been reduced from 12 to six months. The availability of temporary services under the USO has been improved so that Telstra customers are offered an interim service if they cannot be connected within 30 business days, or if their service is not repaired within five business days.

Initiative 2: Mobile phone coverage for towns with a population of 500 or more.

Following a competitive tender, 132 towns with a population of 500 or more will receive improved mobile phone coverage through Telstra's CDMA mobile network. Forty of these towns will also receive enhanced GSM coverage. The first of these towns has already received increased coverage, and all services will be switched on by December 2003.

Initiative 3: Mobile phone coverage for other areas.

The Regional Mobile Phone Program includes:

- \$2.1 million for a satellite handset subsidy program—providing a subsidy of up to \$1100 towards the purchase of a handset. This program is available to those who live or work in an area with no terrestrial mobile phone coverage (a separate program operates in Western Australia);
- \$20.4 million for improved mobile phone coverage to 55 towns with a population of less than 500. Telstra will provide service to all these towns by June 2004;
- \$20.4 million to provide mobile phone coverage to 62 sites on 34 regional highways. Telstra will provide these services by June 2004; and
- \$7.0 million towards the WirelessWest project to improve mobile phone services in the south west land division of Western Australia, with all sites to be completed by May 2003.

Initiative 4: The Internet Assistance Program.

The three-year Internet Assistance Program is supporting users across Australia to maximise their dial-up Internet service performance. This includes ensuring data speeds over Telstra's fixed network of at least equivalent to 19.2 kilobits per second. Special arrangements apply in the Extended Zones, under the Government's \$150 million agreement with Telstra.

Initiative 5: Other Internet initiatives.

The \$70 million Building Additional Rural Networks initiative in Networking the Nation has been adjusted to support the development of high speed regional networks. In addition, an industry code of practice has been established for Internet service providers, setting out their responsibilities for providing consumers with appropriate information on service features and service quality.

Initiative 6: The National Communications Fund.

The National Communications Fund is a \$50 million competitive grants program to fund significant regional telecommunications projects in the education and health sectors in regional and rural Australia. Eight major projects have been announced, all of which involve partnerships between the Commonwealth and other significant organisations, such as State and Territory governments, carriers, and other key regional stakeholders. The successful projects will help provide health and education services through broadband services, satellite education networks and the establishment of new 'last mile' infrastructure to health and education facilities across regional Australia.

Initiative 7: A community information campaign.

In 2001 a community information campaign was conducted in regional and rural areas, which increased awareness of:

- the benefits and opportunities available through existing Government communications funding programs;
- the availability of commercial communications services; and
- consumer safeguards and rights.

Initiative 8: Funding for consumer representation.

A \$3.4 million program over four years is funding consumer representation and research in telecommunications. This includes greater representation for people with disabilities, and for people in regional areas.

Initiative 9: Enhanced payphone services for Indigenous communities.

Work is under way to improve payphone availability in remote Indigenous communities through the USO. This will be implemented in conjunction with the Government's action plan for these communities (see below).

Initiative 10: A study into the telecommunications needs of Indigenous communities.

A national study of the telecommunications requirements of remote Indigenous communities has been undertaken, and an action plan has been developed to address their needs. Following the release of the action plan the Government in 2002 has allocated \$8.3 million over three years to implement a package of measures designed to improve telecommunications service levels in remote Indigenous communities.

Initiative 11: Training in the use of teletypewriters (TTY).

TTY training has been incorporated in the National Relay Service, which assists those with hearing or speech impairments to access a fixed line service. The longer term options for meeting telecommunications equipment needs of people with speech and/or hearing impairments and people with other disabilities is being investigated.

Initiative 12: Information for consumers on the availability of certain services.

Telstra is required by law to provide a comprehensive and effective priority service policy. All Telstra customers with a life threatening medical condition that place them at risk of needing emergency treatment, can now get faster connection and repair of their service, and special support from Telstra for a more reliable service. Priority service is discussed in further detail in the Fixed Phones section.

Initiative 13: Reviews of USO contestability pilots.

The effectiveness of the USO contestability pilots is being monitored and will be reviewed after 12, 24 and 36 months of operation. This will allow regulatory arrangements to be fine-tuned and help to determine whether USO contestability should be extended to additional areas.

Initiative 14: Reviews of telecommunications-specific competition regulation.

As part of its Telecommunications Competition Regulation Inquiry Report, the Productivity Commission reported on the implications of developing telecommunications competition across the country, particularly in regional Australia. The Government has announced that amendments to the current competition arrangements will be made in response to the Inquiry.

Initiative 15: The appointment of a new 'regional' member to the ACA board.

Mr Allan Horsley was appointed to the ACA board with responsibility for regional issues, commencing duties in March 2001.

Initiative 16: Reliability standards and improved quality of service reporting.

Key initiatives are:

- a Network Reliability Framework, requiring fixed phone services provided by Telstra to be closely monitored by the ACA, and action taken where necessary to make them more reliable;
- improved quality of service reporting for major service providers to allow consumers to make more informed decisions on price and quality. The ACA will also provide additional consumer information. An example is its 'Mobiles Tool Kit' which was launched on 19 May 2002; and
- ACA monitoring and action where there has been a serious failure to meet CSG standards.

Initiative 17: Review of the CSG.

The ACA has conducted a review of existing CSG arrangements to determine whether there is a need for changes to reflect the increasingly competitive telecommunications market. As a result of this review the CSG will continue to be applied to all telephone providers, to provide an adequate degree of protection for consumers. At the same time, reforms will be made to streamline compliance and reporting arrangements, and minimise any burden on industry.



Fixed phone services

Telecommunications law now requires that the standard telephone service:

- be readily available everywhere;
- is subject to price controls to ensure it remains affordable;
- meets set standards of reliability;
- be connected and repaired within reasonable timeframes; and
- caters for those with special needs, and for those who need immediate access to emergency services.

Service availability

Highlights:

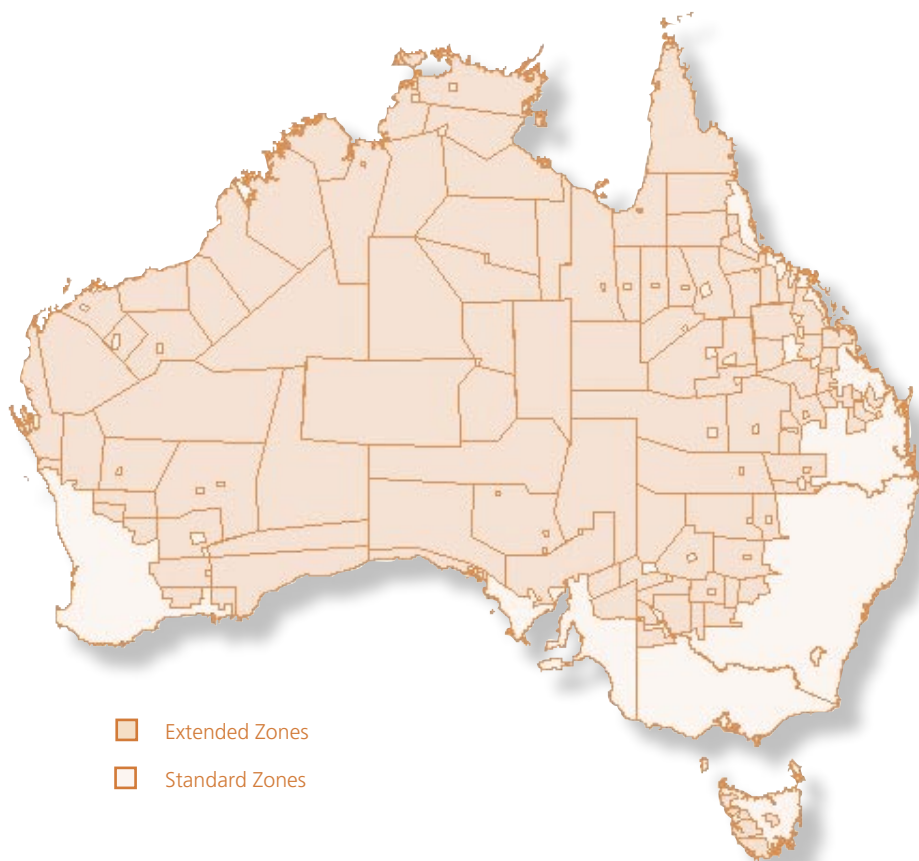
- Strengthening the Universal service Obligation (USO) to provide greater reliability, speedier connection and repairs, and temporary services where reasonable connection and repair times are not met.
- Providing untimed local calls for all Australians, including in the remote Extended Zones for the first time.
- More than ten million fixed telephone services in operation, up from 9.17 million in 1996.

The Universal Service Obligation

Telstra, as the primary universal service provider, is required by law to provide telephony services on request to residential and small business customers throughout Australia. A series of reforms to the USO have been introduced with the aim of improving standards of service quality, reliability and affordability.

Reforms including introducing USO contestability pilots which enable telephone companies, approved by the Australian Communications authority (ACA), to compete with Telstra for subsidies to provide telephone services in designated areas, which could lead to better deals for consumers through increased competition. Reforms have also ensured that consumers will receive a temporary telephone service if a:

- permanent service cannot be provided within 30 working days of a request for a new service;
- telephone fault cannot be fixed within five working days; or
- customer has had three or more faults over 12 months for a total of 14 days or more.



The Extended Zones Agreement

The 40 000 residents of Telstra's remote Extended Zones (comprising 80 per cent of Australia's land mass) previously had no access to untimed local calls, and also generally had lower data speeds and unreliable connections. In 1999, \$150 million was allocated for a tender to provide these communities with a major upgrade to their services.

From 31 July 2002, Extended Zone residents now have for the first time untimed local calls, not just within their zone and to neighbouring zones, but also to the community service towns they use to access the various community services they need.

Payphones

Under the USO, all Australians have a right to reasonable access to payphones. While the dramatic growth in the take-up of mobile phones has lessened community demand for payphone services, payphones are still a very important service option in many circumstances, particularly for those who do not have a fixed phone, cannot afford mobile services or are outside mobile coverage range.

There are approximately 80 000 payphones, provided by a number of different companies, around Australia. While Telstra still supplies the majority of payphones, an increasing number are being supplied by other payphone providers, or by individual proprietors such as shopkeepers, restaurateurs and hoteliers.

Needs of remote Indigenous communities

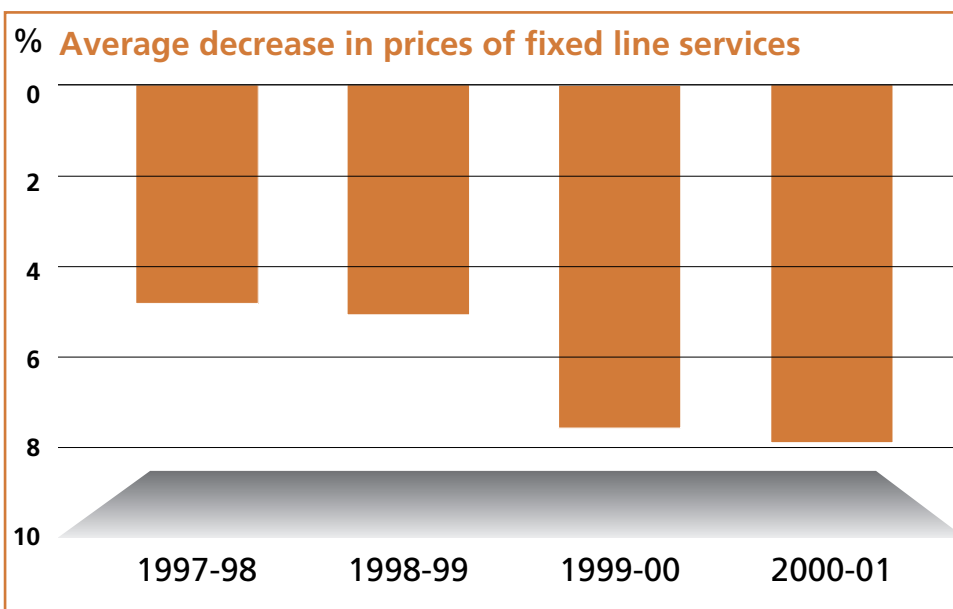
The Telecommunications Service Inquiry (TSI) identified that many remote Indigenous communities did not have ready access to either payphones or standard telephone services. As a part of the response to the TSI the Government has initiated a project with Telstra, as the universal service provider, to

improve payphone availability in these communities. Additionally, a three-year \$8.3 million action plan is currently being implemented with the aim of improving levels of telecommunications services in remote Indigenous communities.

Market developments

While the USO underpins the delivery of telephone services, particularly to rural and remote areas, Australia's pro-competitive telecommunications laws have encouraged competition in the telephony market. This has allowed more carriers to compete with Telstra, either through building and operating their own networks, or through selling phone services by purchasing access to Telstra's network. This competition is providing price benefits to Australians where competition has led to significant price falls and improved service levels.

Local call networks are now being built to compete with Telstra's local exchange networks. For example, companies such as Neighbourhood Cable in Victoria and TransAct in the Australian Capital Territory have built high capacity networks offering consumers a package of telephone services, Pay TV and high speed Internet.



Source: ACCC (2001) Changes in the prices paid for telecommunications services in Australia: 1996-97 to 1999-00

Source: ACCC (2002) ACCC telecommunications report 2000-01 Report 2: Changes in the prices paid for telecommunications services in Australia.

Optus cable network offers selected residential homes in Sydney, Brisbane and Melbourne voice, TV and data services. Networking the Nation has supported the development of new networks in regional and rural areas.

USO contestability

A project is underway to promote competition in regional and rural areas by allowing other service providers to access USO subsidies which have previously been reserved for Telstra. As yet, no alternative carriers or carriage service providers have elected to be alternative USO providers. The Government is continuing to monitor the USO contestability pilots.

Prices

Highlights since 1997:

- International calls have decreased by an average of 21.1 per cent each year.
- National long distance calls have decreased by an average of 8.4 per cent each year.
- Local calls have decreased by an average of 8.2 per cent each year.

Ongoing commitment to price controls

The Government continues to impose price controls on Telstra, to ensure that price benefits are passed on to consumers as costs decline in line with improved efficiency and technological advances. These require the average price of a set of local, trunk and international call services to fall by at least 4.5 per cent in real terms each year. In addition, call connection charges must not increase in real terms.

The Australian Competition and Consumer commission (ACCC) considers that Telstra's line rentals are currently considerably below cost, causing distortions in the pricing of telecommunications services, including inflating the cost of telephone calls and discouraging the rollout of new, more advanced networks. As a result of price control measures, Telstra will be able to gradually increase the cost of line rental over time to better reflect the true cost of providing access.

The average price of a basket of business and resident line rentals cannot increase by more than four per cent in real terms each year.

As a result, the level of interconnection charges paid to Telstra by its competitors will also fall, resulting in further declines in telephone call charges.

The cost of a standard untimed local call from a business or residential services is capped at 22 cents under the current price control arrangements. The cost of making a local call at a Telstra payphone is also capped by the government at 40 cents. This capped price has influenced other payphone providers to price their services at or near this rate.

Telstra is also required to have in place a range of products for low-income consumers to protect them from the effects of any line rental increases. Telstra is currently rolling out such initiatives with an estimated annual cost of \$150 million. The effectiveness of Telstra's low-income package in meeting consumers' needs will be the subject of an annual report to the Minister by the new Low-income Measures Assessment Committee, comprising representatives of welfare groups including the Australian Council of Social Service (ACOSS).

Service quality and reliability

Highlights:

- Requirement for speedier connection and repairs, and temporary services where reasonable connection and repair times are not met.
- Reduced rates of faults and improvements in the reliability of services provided across the telephone network.

The Customer Service Guarantee

The Customer Service Guarantee (CSG), established in 1998, requires carriers to meet set levels of service to customers—including timeframes for the connection of specified services, the repair of faults and the attending of appointments. For example, under the CSG people in remote areas must have their telephone repaired within three working days of reporting the fault and the maximum time for telephone connections in remote areas is 15 working days where existing infrastructure is available.

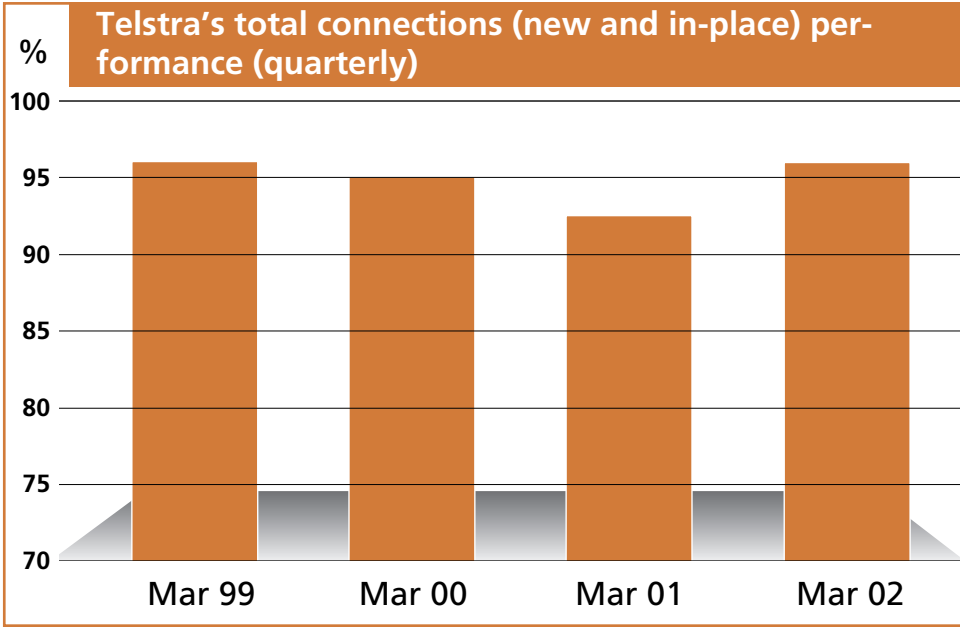
Under the CSG, residential and small business customers are able to claim compensation where carriage service providers do not meet performance requirements set out in the CSG Standard. These payments are made automatically by the service provider if the requirements of the CSG are not met.

Should consumers continue to experience difficulties and remain unable to resolve service issues with their carrier or service provider, they may raise their complaints with the Telecommunications Industry Ombudsman. Overall compliance with the CSG, as reported by the ACA, has been steadily improving over recent years.

Network Reliability Framework

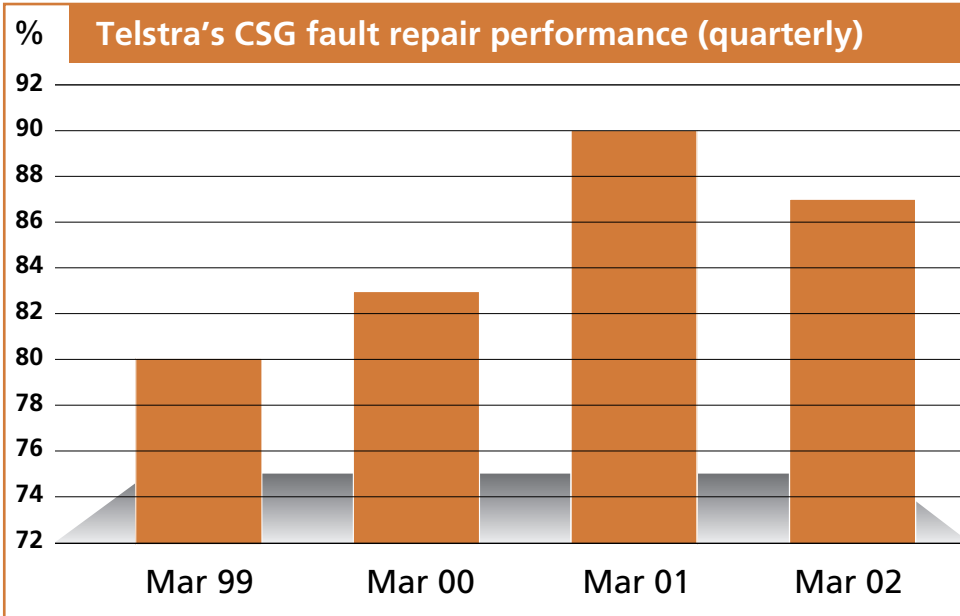
The Network Reliability Framework (NRF) requires Telstra to report regularly to the ACA on the performance of its network at three levels, namely region-based reports, exchange based reports, and reports on individual phone services. For individual services Telstra will be required to report on services that experience more than three faults occurring in any 60-day period. It must remedy any services nearing this level of fault occurrence to make them more reliable.

FIXED PHONE SERVICES



■ Telstra's quarterly performance for the % of total connections (new and in-place) provided within the timeframes specified in the CSG Standard - National.

Sources: Telstra Quality of Service Report - various.
Telstra CSG Standard Compliance Report - various.



■ Telstra's quarterly performance for the % of faults repaired within the timeframes specified in the CSG Standard - National.

Sources: Telstra Quality of Service Report - various.
ACA Telecommunications Performance Monitoring Bulletins.

The NRF addresses service reliability at both the network and individual levels. At the network level, the NRF will provide data on fault performance at both the regional (field service area) level and telephone exchange (exchange service area) level, with a view to informing consumers about performance levels in their

geographic area. Importantly, the NRF will identify the worst performing telephone exchange areas, which will be subject to investigation by the ACA, and where required, remediation. The following table outlines how the NRF will benefit individuals. It is proposed that the NRF will be fully operational by December 2002.

The Network Reliability Framework: individual services

Service level	Telstra responsibility	Service performance required	Australian Communications Authority role
Individual services (approximately 7.7 million)	Telstra must remedy individual service if required service performance breached. Telstra will act in advance to prevent such breaches	An individual service must not have more than three faults in any 60 day period, or more than four faults in any 12 month period	Will require Telstra to remedy any individual service that breaches the required service performance

Interim services

If Telstra cannot install a new standard telephone service within 30 working days of receiving the customer's request, it must offer the customer an interim telephone service. Interim services can be provided through a mobile phone service or satellite phone service.

The offer of an interim service is also required if Telstra cannot repair a faulty service within five working days. An interim service is also available if a customer's telephone has failed to work on three or more occasions for a total period of 14 calendar days or more over a 12 month period.

Priority services

Telstra customers with certain life-threatening medical conditions now have access to faster connection and repair, and greater reliability, of their telephone service. This applies to people who have a diagnosed medical condition that puts them at risk of suffering a rapid, life-threatening deterioration in health, and where telephone access to emergency services or other help could save their lives.

Specifically, Telstra is required to:

- provide comprehensive information to consumers on the availability of this service, and how to access it;
- connect and repair priority services within very tight timeframes (24 hours, or 48 hours in remote areas);
- provide interim services immediately if these timeframes cannot be met;
- provide enhanced reliability of these services; and
- make certain that priority service customers who are disconnected because of credit issues continue to have access to emergency services.

The Telecommunications Industry Ombudsman

The Telecommunications Industry Ombudsman (TIO) is an independent dispute resolution forum for complaints made by residential and small business consumers of telecommunications services. The TIO is funded through charges levied on carriers and service providers on the basis of complaints received against them.

The TIO provides a free and quick forum to deal with customer complaints about telecommunications issues. It can investigate complaints about service providers, and where necessary make binding determinations on the provider to pay consumers compensation.

The TIO's jurisdiction is wide and covers, among other things, disputes about:

- billing;
- delays and other problems in connecting new telephone services;
- fault repairs;
- mobile services;

- transferring between service providers, including delays and unauthorised transfers;
- credit control;
- privacy;
- the installation of low-impact infrastructure;
- Internet access contracts; and
- the CSG.

The TIO will investigate a dispute once a consumer has complained to his or her carrier or service provider and where the consumer remains dissatisfied with the carrier's or carriage service provider's response.

The Australian Communications Authority

The ACA is an independent, telecommunications industry regulator with extensive powers to protect consumers. This includes the ability to set standards, make service provider rules, gather information, investigate, give formal warnings and remedial directions, and apply to the Federal Court for injunctions and penalties of up to \$10 million for contraventions of regulatory requirements such as the USO, CSG, NRF, and the priority assistance arrangements.

The ACA also plays a major role in providing consumer information. For example, the ACA has recently published a toolkit on mobile phones, which provides consumers with valuable advice on how to assess products and packages to best meet their needs.

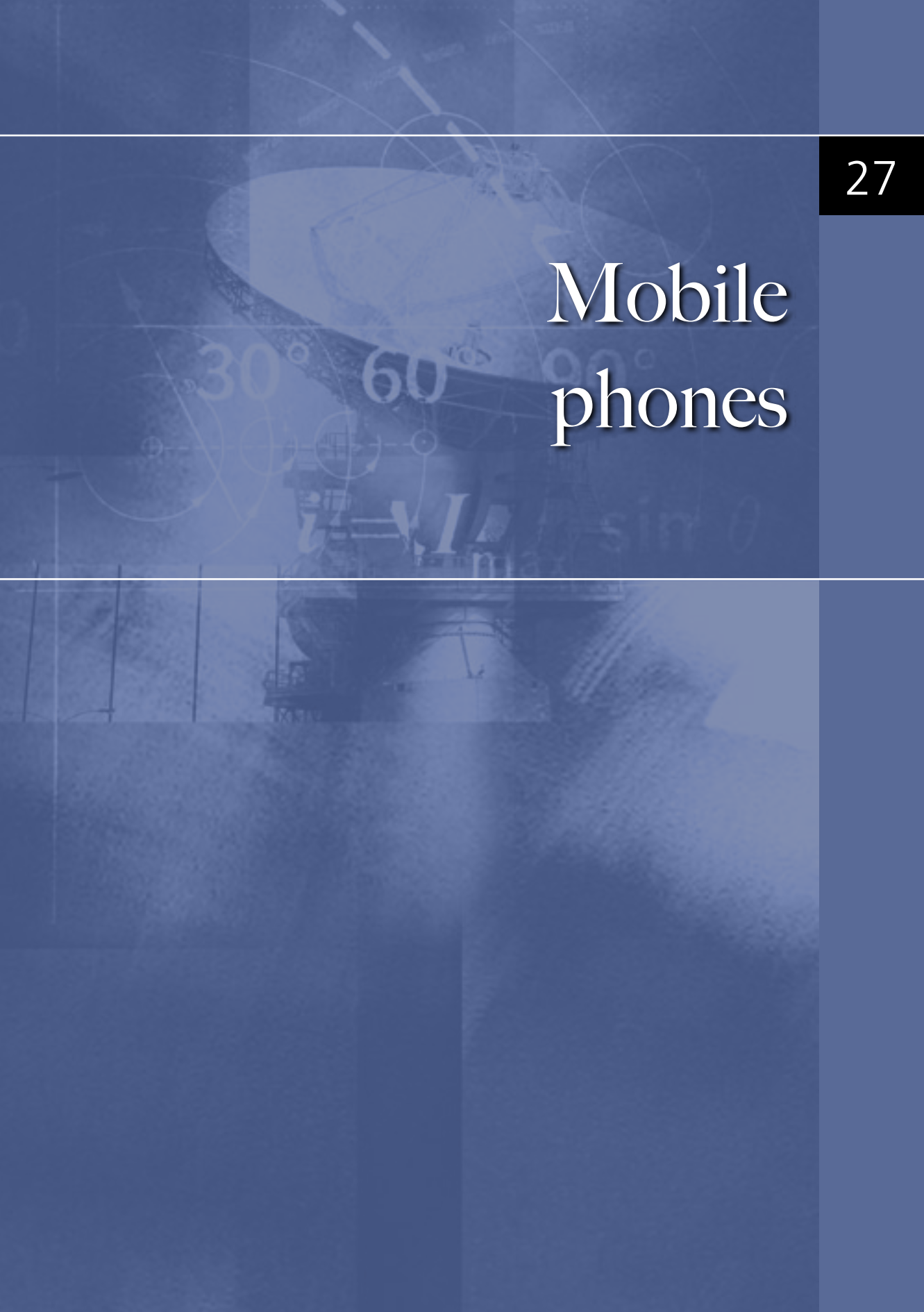
The ACA also reports to Government and the community on the operation of the industry generally. Under the *Telecommunications Act 1997*, the ACA has responsibility to monitor and report to the Minister on the performance of carriers and carriage service providers focusing on consumer satisfaction, consumer benefits and quality of service.

In addition, there are a number of Industry Codes which have been developed by ACIF (Australian Communications Industry Forum)—the peak industry body that facilitates telecommunications self-regulation—and registered with the ACA, that relate to matters such as billing, complaints handling and emergency call service requirements.

The Australian Competition and Consumer Commission

The ACCC administers general competition regulation, as well as telecommunication specific anti-competitive conduct provisions under the *Trade Practices Act 1974*, the telecommunications access regime and the retail price controls applied to Telstra.

Mobile phones



Approximately 60 per cent of all Australians have a mobile phone. Access to affordable and reliable mobile phone services is an important priority.

Service availability

Highlights:

- Strong competition with three major national providers and four national terrestrial networks.
- Approximately 12 million subscribers across Australia.
- Once Government funded infrastructure is in place:
 - 98 per cent of Australia's population will receive coverage from terrestrial networks; and
 - Coverage of Australia's landmass by terrestrial networks will increase from 13.7 per cent to nearly 18 per cent.
- 100 per cent coverage of Australia's landmass with satellite handheld mobile systems.

Land-based, cellular mobile phone networks have been the main way of providing mobile services, both in Australia and internationally. Telstra's analogue AMPS network was phased out to introduce digital

mobile networks. National digital GSM networks have been built by SingTel Optus (Optus), Telstra and Vodafone Australia (Vodafone), and a national digital CDMA network has now been built by Telstra to replace its former AMPS network. Hutchison Telecommunications (Australia) Limited (Hutchison) has also built a CDMA network in parts of metropolitan and regional Australia.

Telstra's CDMA network now extends twice as far as the former AMPS network.

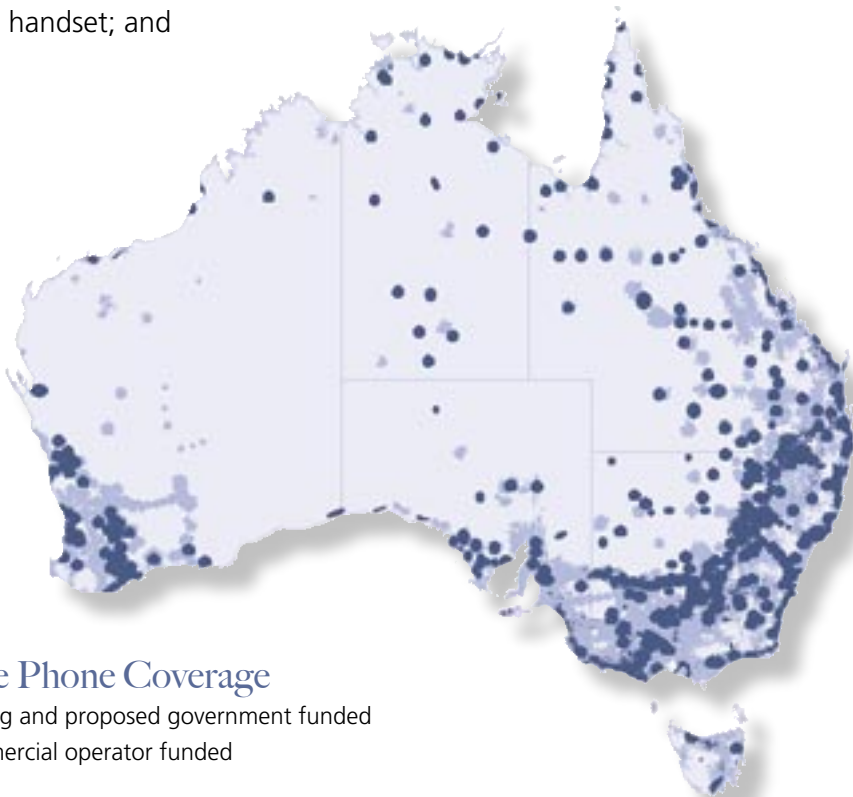
Significant funding has been allocated to improve mobile phone coverage, by supporting the establishment of mobile base stations and associated infrastructure. Key initiatives have been:

- Networking the Nation—\$40.5 million to build 109 mobile base stations across the country;
- Mobile Phones on Highways—\$25 million contract with Vodafone to provide continuous coverage along 9963 km of Australia's national highways;
- Funding of \$1 million each to Western Australia, South Australia and Tasmania to improve mobile coverage;

- a \$23.9 million contract with Telstra to provide full mobile phone coverage to 132 towns with populations over 500;
- a \$20.4 million contract with Telstra to provide coverage to 55 small towns with a population of less than 500;
- mobile phone coverage in south western Western Australia will be improved through the Wireless West Project (\$7.0 million);
- a subsidy of up to \$1100 is available to assist with the purchase of a satellite mobile phone handset; and

- a \$20.4 million contract with Telstra to provide mobile phone coverage at 62 sites along 34 regional highways.

As a result of this funding and further commercial investment, terrestrial mobile phone networks will cover nearly 18 per cent of the Australian landmass, with more than 98 per cent of the Australian population able to access terrestrial mobile phone services, once funded projects are completed.



Mobile Phone Coverage

- Existing and proposed government funded
- Commercial operator funded

Unfortunately, it is not viable to provide 100 per cent coverage of the Australian landmass with terrestrial mobile phone networks. The capital cost would be prohibitive, and there would be insufficient ongoing revenue to cover operating costs.

However, full coverage of Australia is provided through satellite mobile phone systems. Prices for handsets and call charges for these satellite services are higher than for terrestrial mobile services, but are declining. Satellite handsets are now available from approximately \$1000 compared with over \$5000 in 1997. Call costs have also decreased, with charges now starting at below \$1 per minute.

To further improve affordability of this service, the purchase cost of a satellite handset is being subsidised by up to 50 per cent, capped at \$1100. This subsidy is available to people who live or work in an area that does not have access to a terrestrial mobile phone service.

In addition, technology developments have seen the emergence of new digital enhanced cordless telecommunications (DECT) telephones that provide extended access to the fixed line network. These long-range cordless phones provide line-of-sight coverage up

to 10 kilometres from the home base station, making them an ideal alternative to mobile phones for on-farm use if CDMA or GSM is not available.

Pricing

Highlights:

- An estimated decrease in the cost of mobile phone services of 27.4 per cent between 1997 and 2001.
- A subsidy, for eligible customers, of up to \$1100 or 50 percent of the cost of a satellite phone handset.

Consumers now have the choice of a wide range of mobile phone offerings. Call rates under all carrier mobile pricing packages do not discriminate between urban and rural users: generally there is no differentiation between rates based on the distance of the call. Any variation in call rates relates more to the volume of calls agreed in the user contract, and the network to which the call is made (fixed or mobile). Consumers are also able to access additional services such as voicemail, and SMS messaging at differing rates.

Service quality and features

Highlights:

- Increasing range of service enhancements, such as SMS and call forward.
- Consumers are now able to keep their mobile phone number when they change carriers.
- Call congestion or drop out rates compare favourably to those of New Zealand, the United Kingdom and Canada.

The range of services and features now available through mobile phone technology is increasing as the technologies evolve. Features include both voice and non-voice features including:

- Voice features: Message bank–answering machine, calling number display, connection service (similar to a directory assistance service), call waiting, conference call, and call back service;
- Non-voice features: Memo and group memo–pager service, variable ring tones, short messaging services (SMS), pocket news and digital fax and data.

Service performance

The Australian Communications Authority (ACA) monitors, and publishes quarterly, call congestion and the rate of call dropouts for the mobile phone carriers—Hutchison, Optus, Telstra and Vodafone. At the end of 2001 GSM call dropout rates were at or below 1.93 per cent and call congestion rates were at or below 0.56 per cent. The general trend identified by the ACA is that drop out rates are declining. Congestion rates are better in regional areas than metropolitan areas.

The Productivity Commission has reported that Australia compares favourably in terms of call congestion and drop out rates compared to levels reported in the United Kingdom, New Zealand and Canada (International Benchmarking of Remote, Rural and Urban Telecommunications Services Report July 2001). For example, the call congestion rate in Australia is below one percent, whereas in the United Kingdom the rate of call congestion is between one and two per cent.

Mobile phone number portability

The ACA has implemented a program to allow mobile phone users wishing to change their mobile service provider to retain their existing mobile phone number. Over 92 per cent of transfers are completed within the same time it takes to provide a new service.

Consumer rights

The ACA has developed a Mobile Tool Kit that provides consumers with information to help them choose the most appropriate service for their needs, and to inform them of key issues to be aware of when purchasing a service.

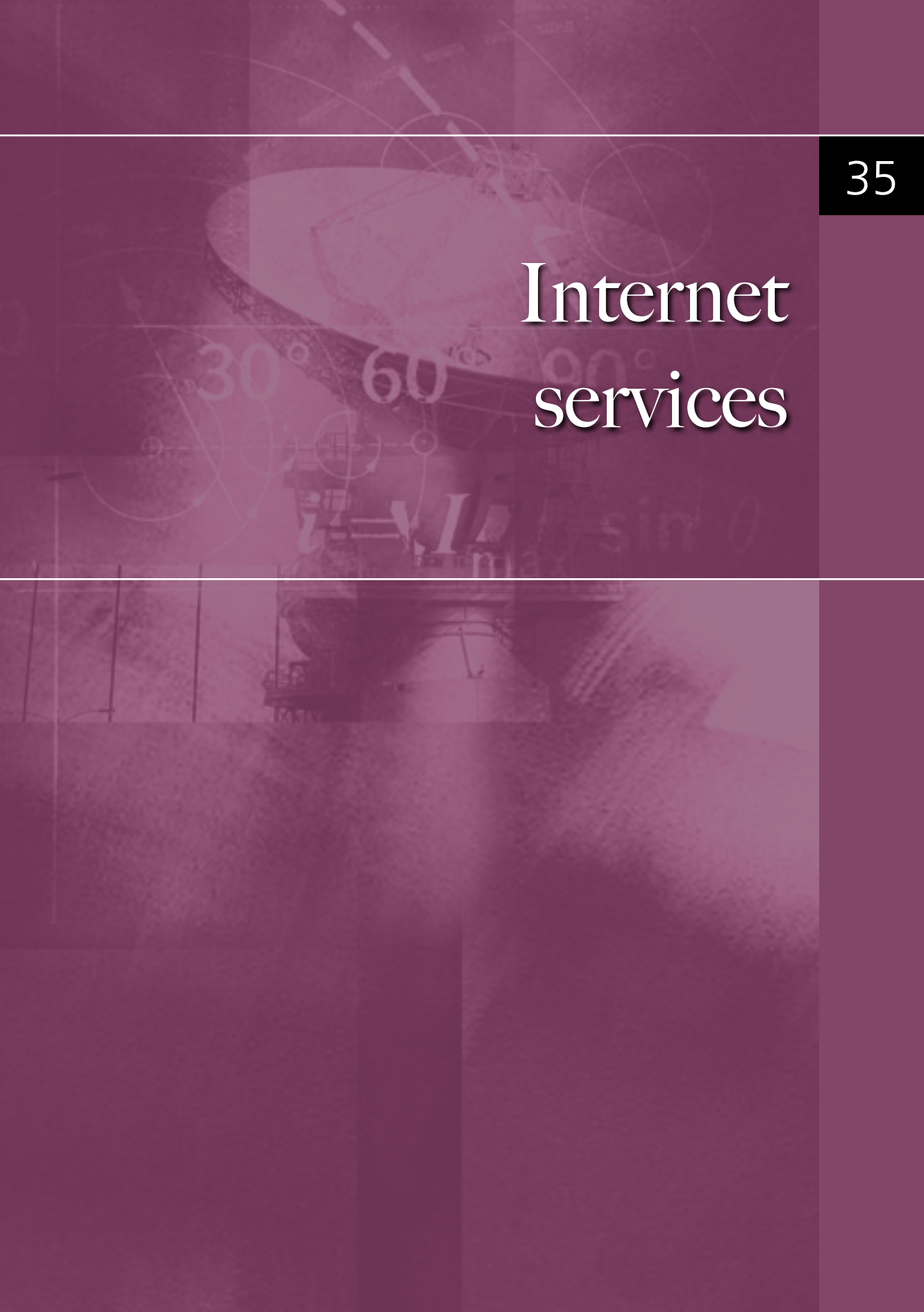
Lost or stolen mobile phones

Mobile phone theft is a growing problem in Australia and overseas, with an estimated 100 000 mobile phones lost or stolen in Australia each year.

A national campaign was launched on 28 May 2002 to combat phone theft in Australia. The campaign, called 'Mind Your Mobile' includes the introduction of industry-wide blocking technology of the mobile handset. This initiative will commence with Telstra, and later

Vodafone and Optus blocking from its network any mobile phone number that is reported stolen. Further information on the campaign can be obtained from the Australian Mobile Telecommunications Association website at www.amta.org.au or by phoning 02 6230 6055.

Internet services



There are now almost 8.4 million Australians, or 52 per cent of the population, using the Internet to gather information, communicate with others and undertake transactions, for business, community and recreational purposes.

Australia's competitive telecommunications environment has encouraged the development of the Internet Service Provider (ISP) market and there are now more than 600 ISPs, with large numbers of ISPs in regional and rural areas.

Delivery of Internet services has traditionally been over 'narrowband' dial-up connections via Telstra's telephone network. Because this network was never designed to carry high speed data services, Internet services can sometimes be constricted, although improvements are being made to these services to support Internet usage. Digital, 'broadband' networks, specifically designed and engineered to carry high speed data services, allow much faster and 'always-on' services to consumers.

Dial-up Internet services

Highlights:

- All Australians can now dial-up to at least one ISP at untimed local call rates.
- Internet prices have fallen significantly, and many different service offerings are available to suit different needs.
- Higher speed Internet and data services for all Australians through the Digital Data Service Obligation (DDSO) and Special Digital Data Service Obligation (SDDSO).
- Improved Internet performance through the Internet Assistance Program.
- Support for the establishment of more than 1600 Internet public access centres in regional and rural areas.

Service availability

Dial-up Internet service involves two elements:

- access to the Internet provided by an ISP; and
- access to the ISP provided by a dial-up connection over Telstra's telephone network.

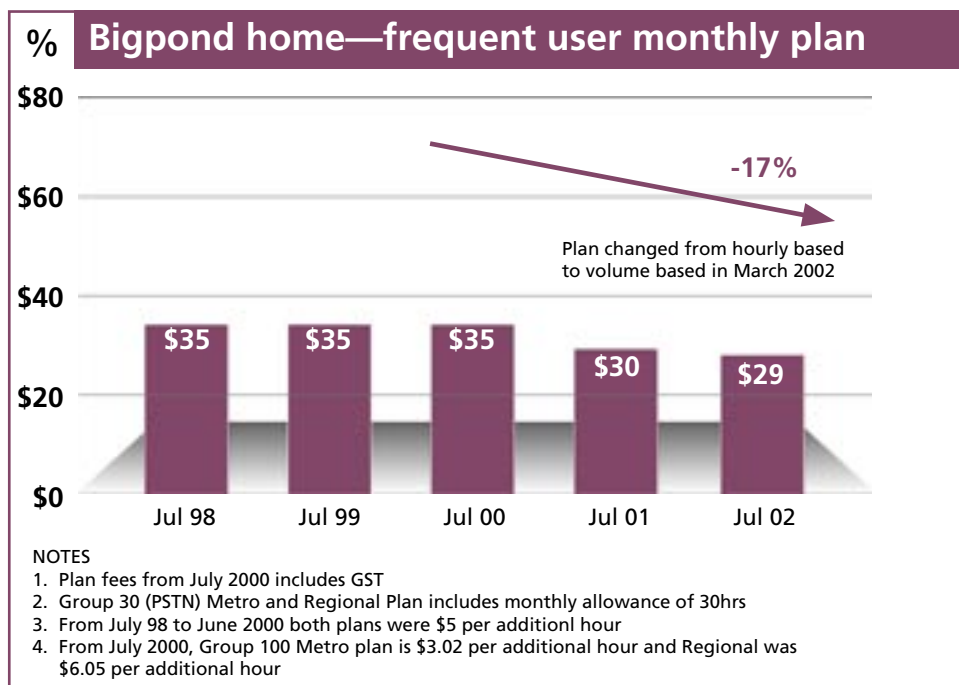
The ISP market has always been highly competitive with many ISPs available, often with points of presence in regional centres, and sometimes in smaller rural towns. The real issue for many Australians in rural and remote areas was that connecting to these ISPs has required a long distance, timed call over Telstra's network. This meant that Internet service delivery for these people was often very expensive.

Through the Networking the Nation (NTN) program - particularly the Internet Access Fund—the Government addressed this problem by funding the expansion of Internet points of presence, by community-owned or commercial ISPs, into smaller rural towns to enable access to an ISP for the cost of an untimed local call. In the most remote parts of Australia—Telstra's Extended Zones—improvements

to Internet access were achieved through a \$150 million tender to upgrade infrastructure. The tender winner, Telstra, agreed to provide all Extended Zones customers with untimed local call access to an ISP as part of its service offer in these areas.

This support provided many consumers in rural and remote areas with affordable access to the Internet for the first time. At the same time new commercial products were developed that allow ISPs to offer expanded local call access to their customers, including across all Australia if required. Many ISPs now offer national untimed local call Internet access, coupled with ISP tariffs that are comparable (and in many cases identical) with service prices in metropolitan areas.

There has also been a strong emphasis, through the NTN program, on improving public access to the Internet. NTN has funded over 1600 public Internet access facilities in regional Australia. Access is provided through community Internet cafes, public libraries or schools, and training is often provided to users at these facilities.



Prices

Driven by strong competition and rapidly developing technology, dial-up Internet prices have continued to fall. Approximately five years ago most ISP offerings included per hour charging, often at rates of up to \$5 per hour for casual users. Now there is a large range of plans being offered by ISPs across Australia, with a strong trend away from timed access charges to volume limits, and with monthly charges as low as \$10 for unlimited hours and a reasonable volume limit. Consumers can choose from a large variety of services and pricing plans to suit their particular needs.

Service quality and reliability

The speed, quality and reliability of dial-up Internet services are controlled by a range of factors that influence the way data travels from the host server through the network to the user's computer. The key factors are:

- the quality and appropriate set-up of the user's computer, and modem capacity and settings;
- the quality of the connection between the user and the ISP;
- the quality and set-up of the ISP's equipment; and

- the quality of all the Internet connections and equipment linking the ISP with the requested information and the host server (computer) where it resides.

The Government has set in place arrangements to improve those parts of the Internet that it is able to influence. In particular, in partnership with Telstra, the Internet Assistance Program (IAP) has been established.

The IAP helps residential and small business consumers set up their Internet equipment to optimise connection speeds, and enables them to identify if their Telstra fixed telephone connection to their ISP is inadequate to deliver a reasonable level of Internet performance. Where this is the case, Telstra provides support to improve the performance of the network to achieve a minimum speed equivalent to 19.2 kbps. Specific arrangements are in place to address the special needs of those in Extended Zones, including access to a two-way satellite service.

Because of the complexity of Internet service issues, it is often difficult for consumers to assess the quality and value-for-money of the services offered by various ISPs. An Internet industry code of practice has been established, to provide better and more complete information to consumers about Internet services, and the terms and conditions attached to them.

The Digital Data Service Obligation

In 1998 the Digital Data Service Obligation (DDSO) was introduced.

The DDSO guarantees all Australians access to data speeds, upon request, of at least 64 kilobits per second one way. This service is available to 96 per cent of Australians through Telstra's Integrated Switched Digital Network (ISDN) service. Where ISDN is not available, the data service obligation is provided via a one-way satellite service, known as the Special Digital Data Service Obligation (SDDSO). A special subsidy scheme has been established for the SDDSO that provides a rebate of 50 per cent of the price, capped at \$765, to eligible customers to offset installation and equipment costs. Telstra and Hotkey are both registered SDDSO providers, and compete for customers under the scheme.

Broadband services

Highlights:

- Broadband Internet services are expanding across multiple platforms.
- Broadband services are more accessible as a result of the Extended Zones agreement and through projects funded under the National Communications Fund.

As in other countries, the broadband Internet and data services market in Australia is still developing. Broadband enables the delivery of enhanced Internet services, including effective video and audio streaming (video and audio over the Internet), while also enabling other high quality data services, such as video-conferencing, and high level education and health services.

Service availability

Broadband can be provided over a variety of technology platforms, including cable, satellite, wireless systems, and the copper wire based telephone network. Satellite systems are available across Australia, so broadband

is technically available for all Australians. However the current technology limitations or roll-out costs of some of the other systems, which are generally more affordable than satellite services, has restricted their reach to either metropolitan areas, regional centres, or larger rural towns.

Initiatives that are resulting in greatly improved broadband access for rural and remote Australians are:

- Under the \$150 million Extended Zones agreement with Telstra, 2-way broadband satellite Internet services are being offered to consumers in the most remote parts of Australia on very favourable terms and conditions;
- the National Communications Fund is providing \$50 million to support the extension of broadband services to improve the delivery of education and health services across many communities in regional, rural and remote Australia. This funding is being more than matched by contributions from industry and other tiers of government;

- the \$2.1 million Broadband Content Fund provides seed funding for innovative content producers to develop new broadband applications;
- the Launceston Broadband Project is a pilot project to test consumer interest in, and to fund the development of, broadband content and applications. Telstra is working with the Government to allow consumers and businesses to test and trial broadband products and services; and
- under the Advanced Networks program \$37.23 million was allocated to three advanced network and test bed projects, to encourage experimentation in, and commercialisation of, leading edge network technologies and products.

Prices

Prices for broadband Internet services are naturally higher than for narrowband Internet services, given the greatly increased data speeds and improved services they offer. Prices are trending down as the market matures and take-up increases. As competition increases broadband ISPs are offering a greater range of service and pricing packages to suit the differing needs of customers. For example, access to an ADSL service can start at \$59.95 per month for up to 300MB of data, plus an initial installation cost of \$129. A recent report from consulting firm, AT Kearney, shows that the price of cable Internet access in Australia is 34.7 per cent below similar services in the United States and 21.9 per cent below similar services in the United Kingdom.

Prices for satellite Internet services have generally tended to be higher than for land-based systems, mainly because of high costs for equipment and for access to satellite transponders. The Government has introduced a scheme to reduce this extra cost to consumers who have no choice but satellite (see the SDDSO described above), which currently applies only to one-way satellite services.

All extended zone customers have also been eligible for an 'always on' 2-way satellite-based internet service, with a choice of access speeds and prices, together with free installation during the initial rollout stage. Installation of the 2-way service is currently in progress. The 2-way service has made Internet costs in remote Australia comparable with those currently available in metropolitan areas.

Service quality and reliability

The widespread commercial delivery of broadband services, over a range of platforms, is still a developing market, here and overseas. There have been some service reliability problems in relation to some technologies as commercial services are expanded and developed. However service standards are improving across all platforms, with competition putting pressure on providers to address service quality issues. In some instances, service providers offer a voluntary customer service guarantee.

Consumer rights

The supply of a standard telephone line for dial-up Internet access and connection to an ISP are covered by the CSG. The connection and repair of these lines is subject to performance standards, and automatic compensation payments if breaches occur.

Telecommunications Industry Ombudsman

The Telecommunications Industry Ombudsman (TIO) provides a free service to people who have been unable to resolve a complaint directly with their Internet service provider.

RESOURCE	CONTACTS
New Connections	<p>Tel: Freecall™ 1800 883 488*</p> <p>Fax: 02 6271 1886</p> <p>Email: new.connections@dcita.gov.au</p> <p>Mail: New Connections GPO Box 2154 Canberra ACT 2601</p> <p>Web: www.newconnections.gov.au</p>
Department of Communications, Information Technology and the Arts (DCITA)	<p>Tel: Freecall™ 1800 883 488*</p> <p>Fax: 02 6271 1901</p> <p>Email: dcita.mail@dcita.gov.au</p> <p>Mail: GPO Box 2154 Canberra ACT 2601</p> <p>Web: www.dcita.gov.au</p>
Telecommunications Industry Ombudsman (TIO)	<p>Tel: Freecall™ 1800 062 058*</p> <p>TTY: 1800 675 692</p> <p>Fax: 1800 630 614</p> <p>Email: tio@tio.com.au</p> <p>Mail: PO Box 276 Collins Street West Melbourne Victoria 8007</p> <p>Web: www.tio.com.au</p>
Australian Communications Authority (ACA)	<p>Tel: (03) 9963 6800 (switchboard)</p> <p>Contact details for regional offices are available on the ACA website</p> <p>Web: www.aca.gov.au</p>
Australian Competition and Consumer Commission (ACCC)	<p>Tel: 1300 302 502</p> <p>Contact details for regional offices are available on the ACCC website</p> <p>Web: www.accc.gov.au</p>

*Calls from mobile telephones charged at applicable mobile telephone rates.

