SUBMISSION TO THE SENATE REFERENCES COMMITTEE BROADBAND COMPETITION INQUIRY

Prepared by Townsville City Council

29 September, 2003

Executive Summary

Townsville City Council believes equitable access to high quality, affordable and reliable telecommunications services is critical to the quality of life and competitive of industries in our City.

Council is concerned that there is currently inadequate xDSL broadband service availability to Townsville businesses and residents. At least 20% of Townsville residential customers simply cannot get xDSL due to network and technology constraints. This is simply not acceptable.

Investments in technology and network infrastructure are required to achieve a satisfactory situation of ADSL availability to all. We believe this is an absolute imperative for our region.

Robust retail competition is recognised as an important ingredient to ensure consumers receive quality services, affordable prices and innovative offerings. Current levels of retail competition in broadband services are disappointing. Peering arrangements are adversely impacting on regional competition, making market entry for local firms potentially cost-prohibitive.

Additionally, infrastructure-based competition is encouraged as a basis for driving consumer uptake and encouraging service providers to actively compete. Global experiences strongly indicate high broadband take-up is driven by infrastructure competition, for example between traditional telco's offering xDSL and cable operators.

Serious consideration needs to be given to the potential anti-competitive effects of the cross-ownership by Telstra of both the nation's PSTN and 50% of Foxtel. This situation is unique, and runs counter to the infrastructure competition that has driven broadband take-up in a number of OECD countries.

An absence of effective retail and infrastructure competition has led to pricing regimes that strongly deter consumer uptake of broadband technology and

services. Take-up is highly sensitive to price, and current pricing levels (installation costs together with monthly fees) are simply too high for the large majority of regional residential consumers.

The prevalence of broadband caps compounds this price-based impediment. Penalties levied on consumers overshooting caps are unjustifiable, given the fact that the nation's trunk networks are operating at no more than 10% capacity.

Wholesale competition also must be encouraged, through transparent regimes. Third parties must be able to access networks and infrastructure to deliver services in a genuinely competitive manner. To this end, the accounting separation of Telstra is seen as a positive step, but detailed monitoring of its impacts will need to be conducted to ensure accounting separation is actually effective.

Apart from open access regimes, Council is also encouraged by the possibilities of Government-funded programs related to broadband demand bundling etc., to facilitate new infrastructure deployments in the region.

Council is also concerned about the potential negative impacts of bundling on the state of competition in the region. While recognising that bundling under certain conditions can lead to benefits in terms of economies of scope and scale, and reduced prices to consumers, it can contribute strongly to anti-competitive outcomes. Stringent tests must be applied by the regulators whenever bundling propositions are advanced, especially by dominant players in the marketplace, to ensure consumers are not adversely affected in the long run.

Related to concerns about bundling, Council has some concerns about the potential for anti-competitive outcomes of bundling as a result of convergence between content ownership and content delivery. Legislative impediments to broadcasting via the Internet (including anti-siphoning laws and datacasting restrictions) need urgent review in this context.

Contents

1 INTRODUCTION

The Townsville City Council has prepared this submission to the Broadband Competition Inquiry, being conducted by the Senate References Committee.

In preparing this submission, the Council has taken a broad 'whole of community' approach. This approach has involved community consultation through informal mechanisms. As well formal community feedback via a *Regional Telecommunications Forum* initiated and facilitated by Council in September 2002 as part of Council's response to the Estens Inquiry into Regional Telecommunications Services, has been taken into account.

Council has also sought further information from Telstra CountryWide in relation to broadband services and infrastructure in the region, but at the time this submission was prepared no additional information was provided. Where references are made to Telstra CountryWide information, this relates to data provided in August and September 2002.

1.1 MAIN POINTS

The main points of this submission are that:

- Broadband Internet services are inadequate, insufficiently widespread and too expensive for business and household use – more needs to be done in this critical area of infrastructure rollout and service delivery;
- Competition in the broadband services market in the region is inadequate, and is a significant impediment to broadband services take-up within the community;
- Current prices, together with broadband caps – both a consequence of a lack of competition – are discouraging consumer take-up of the technology and services;
- Significant investments in upgrading and maintaining the telecommunications network is essential to ensuring that Townsville residents and businesses have available to them broadband services

(especially DSL services). Again, the limited nature of competition retards incentives for dominant service providers to invest in additional network infrastructure;

- Infrastructure-based competition would be a significant fillip to broadband take-up in the local environment ; and
- Convergence can lead to improved consumer convenience, but the potential anti-competitive effects of bundling strategies – especially by dominant players – must be evaluated against strict considerations for the long-term public good.

2 TOWNSVILLE TELECOMMUNICATIONS CONTEXT

2.1 SIGNIFICANT SPEND

The Townsville region spends considerable sums of money on telecommunications services.

According to the 2001 *Queensland Customer Access Network Study* (*QCAN*) commissioned by the Queensland Government the annual telecommunications expenditure in Townsville for 2001 was in the order of $138.3 million. This is expected to grow to between $188.8 million and $205.1 million in 2006.

2.2 HOUSEHOLDS

There are approximately 60,540 households in the Townsville region, with some 127,658 lines consisting of 69,751 fixed telephone lines and 57,907 mobile phone lines. The study found that:

- The average annual expenditure per household on telecommunications services is in the order of $1,377;
- The average annual expenditure for home businesses is $3,954; and
- Excluding home businesses, the average annual spend for households is $1,063.

2.3 BUSINESS

There are approximately 8,432 businesses in the Townsville region (1998), with some 56,254 telephone lines comprising 39,337 fixed lines and 16,917 mobile phone lines.

The average annual expenditure per business on telecommunications services is $6,567.40 making a total spend of approximately $54.9 million.

A recent study conducted for Townsville Enterprise Limited suggests that regional business expenditure on telecommunications could be even higher

that this estimate, with average annual expenditure on all voice and data services in the region of $33,000.[1]

2.4 FUTURE GROWTH

The *QCAN Study* found that 34.8% of Townsville residents expected to add new fixed or mobile lines in the next five years. This compares with a State-wide average of 30.2% (p. 46).

Growth in home based business activity is one of the main drivers of future growth in line installation, which presents significant opportunities and need for ADSL access from homes.

[1] Transpac Consulting and Townsville Enterprise Limited (May 2003) *North Queensland Regional Business Telecommunications Survey*

3 RESPONSE TO TERMS OF REFERENCE

3.1 TERM 1

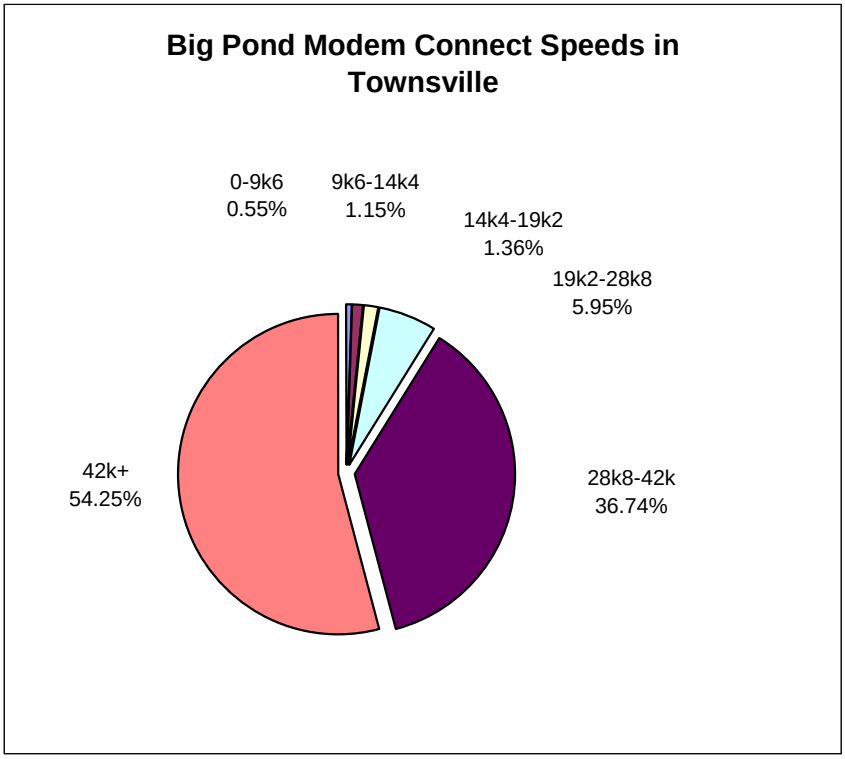
The current and prospective levels of competition in broadband services, including interconnection and pricing in both the wholesale and retail markets.

3.1.1 Reliable Access to the Internet

Council acknowledges that the PSTN has been progressively upgraded across the country to improve the quality of especially voice services, and to a certain extent accommodate the growing demand for data services. However, Council is concerned that Telstra's reported CAPEX cuts will lead to the long run decline in the quality of the PSTN asset, to the detriment of consumers.

Australian Internet use, particularly *narrowband* access (up to 56kbps) via a dial-up connection, is reasonable by international standards. According to information provided by Telstra CountryWide, in terms of download speeds, the situation in Townsville for narrowband services is reasonable if unspectacular.

Telstra CountryWide data (September 2002) indicates that over 90% of Telstra BigPond connect speeds are in excess of 28kbps, with 54.4% in excess of 42kbps (Chart, next page).



However, while the dial-up service appears reasonable, the existence of a 4-hour hard timeout policy from some service providers for Internet connection is angering customers, particularly those who have subscribed to an unlimited usage Internet access account. It is seen as merely another way for carriers to get more money from its customers.

It is, therefore, of concern that consumer complaints to the Telecommunications Industry Ombudsman about so-called Internet dumping by dial-up providers have increased in the June 2003 Quarter (from 921 to 1,039 – or 12.8%).

3.1.2 The Broadband Situation

While narrowband Internet use is improving, Australia lags other advanced economies in its adoption of *broadband*.

According to ACNielsen/NetRatings, as of September 2001 approximately 5% of Australians accessing the Internet at home did so at ‘high speed’ (e.g. DSL,

Cable, LAN etc.). This placed Australia 16th out of 28 OECD countries benchmarked.[2]

Since that time, Australian broadband uptake has increased significantly – but from a very low base – in response mainly to Telstra's rollout of ADSL services and the emergence of competition in the domestic broadband market resulting from the 'unbundling of the local loop' – particularly in densely populated capital cities.

ADSL is now the most popular broadband platform, and most readily available across the country, having surpassed the take-up of broadband via cable.

According to the ACCC[3], between March 2002 and March 2003 broadband take-up in Australia increased by 112% from 199,800 to 423,600. The most significant area of growth in this respect has been the take-up of xDSL technologies. By March 2003, there were over 218,000 xDSL subscriptions, an increase of 150,700 or 221%.

NOIE data, however, shows that Australia's comparative position on residential broadband penetration by 2002 was still relatively low:

- Australia - 5%
- Hong Kong -52%
- Singapore - 25%
- US - 19%
- France -13%

Furthermore, regional centres continue to lag Capital City take-up activity. In Townsville, data provided by Telstra CountryWide indicate that ADSL take-up is in the order of 1,250 customers or 1.8% as of August 2002.[4] Extrapolating this on the basis of national growth averages would suggest that by June

[2] OECD (2001) *The Development of Broadband Access in OECD Countries* p. 14.
[3] ACCC (March 2003) *Snapshot of Broadband Deployment as at 31 March 2003*
[4] Council has sought more up-to-date information from Telstra CountryWide, but this was not available at the time this submission was prepared.

2003 there were around 2,350 xDSL subscribers in the Townsville region (or 3.4%).[5] This is extremely disappointing.

A recent survey of Australian small businesses[6] confirms the existence of the 'digital divide' in terms of broadband penetration between metropolitan and non-metro Australia. While some 41% of small businesses overall have broadband connectivity, the difference between metropolitan and non-metropolitan areas is stark:

- 49% of metro small businesses have broadband; whereas
- Only 18% of non-metro small businesses have broadband.

This is of considerable concern, and it is vital that the take-up rate in Townsville be increased to ensure the region down not become another 'digital divide' statistic.

Council believes that the lack of affordable bandwidth in Townsville is a significant drag on the future economic growth opportunities of the region, as well as impacting adversely on the quality of life of the city's residents.

The need to access Information and Communication Technology (ICT) is very important to future industry development in the region. It enhances the region's ability to compete domestically and actively participate in the global economy.

The fact is that bandwidth is a critical determinant of the capacity of business to gain access to and disseminate large amounts of data quickly and cheaply. Bandwidth determines the speed of e-mail, Internet connectivity, video conferencing and other critical e-business functions.

The inability to access ICT will impede businesses, both large and small, affecting in turn Australia's competitive position in the global marketplace.

[5] Note that this is calculated on the basis of Townsville region customers that can access ADSL (approximately 69,000) whereas some 17,500 cannot access ADSL services for network limitation reasons. See section 3.1.3.1 below.
[6] Pacific Internet (July 2003) *Broadband Barometer*, p. 5 (research conducted by ACNielsen.consult)

The Allen Consulting Group estimates that widespread business involvement in the information economy could delivery an extra 2.6% GDP growth by 2004-2005, but this would be reduced to 2% if broadband Internet access did not become widely available. The missing 0.6% is estimated to be worth some $12 billion nationally in the peak year.[7]

The inability to access bandwidth in key regional centres such as Townsville is of particular concern in Queensland, the only state in which a majority of residents reside outside the capital city. This situation is not only an impost to business growth but, as stated by Commerce Queensland's Manager in North Queensland David Lynch at the *Regional Telecommunications Forum*, also considerable concern to successful development of this region.

The need for affordable broadband services was identified as one of the key issues impacting on ICT development in North Queensland.[8]

The opportunity-costs for a regional economy like Townsville are considerable. A recent survey showed that in Townsville the ICT sector alone – comprising some 110 businesses, employing around 800 people – generates revenues of $90 million a year.[9]

Already, 15% of these businesses are selling products and services interstate and 15% are involved in international export activity. Access to affordable broadband infrastructure and services could assist these firms grow their export activities, and strengthen the region's overall competitiveness.

Some communities associated with the Townsville region (e.g. remote mining locations and small businesses in remote and even metropolitan areas) have no broadband access. In areas that do have access, the cost of this access (especially for business) creates substantial development barriers and adds to the cost of doing business in the region. These costs create anti-competitive

[7] NOIE *Australia's Information Economy: The Big Picture*
[8] Queensland Government (September 2002), *Tropical ICT*, p. 6.
[9] Queensland Government Department of State Development (September 2002) *Tropical ICT, North Queensland Industry Development Plan for Information and Communications Technology*

forces and even prevent the ability to access infrastructure available to businesses.[10]

According to Commerce Queensland in Townsville, the inadequate availability of affordable broadband services as well as competitively priced long distance telephony, have seen some potential business ventures choose Brisbane or another capital city over Townsville as a base. The comparative cost of telecommunications was the decisive issue.

This is despite Townsville meeting or exceeding the business requirements on the needs of the proponents, such as skilled labour, property costs and lifestyle and location. The ability for these organisations to gain access to bandwidth is important to recruitment and the money spent on accessing bandwidth could be better spent on business operations. The impacts of these decisions have meant a loss of potential employment to the region, as well as a loss of opportunities to improve Townsville's corner stone of innovation and development through the supply of skilled labour.[11]

Both the education and health sectors in the region require high bandwidth and the lack of accessibility impacts on the provision of these services, points emphasised by speakers and participants at the *Regional Telecommunications Forum*.

Simple things like school children being able to download files and engage in multimedia-based education formats are not available to many families in Townsville because of either the prohibitive cost of broadband or the fact that the infrastructure for residential broadband is not in place.

As such, the availability of affordable broadband is not only an issue for business, it is an issue for the community at large.

[10] Queensland Confederation of Industry (Commerce Queensland) – David Lynch Manager, *Regional Telecommunications Forum*
[11] Queensland Confederation of Industry (Commerce Queensland) – David Lynch Manager, *Regional Telecommunications Forum*

3.1.3 Broadband Issues

A number of factors are contributing to this unsatisfactory situation. These include the following:

- The state of the Network Infrastructure;
- The lack of robust competition in the local broadband market place;
- Inappropriate Pricing; and
- The prevalence of broadband caps.

3.1.3.1 Network Infrastructure

Firstly the nature of the *existing network infrastructure* is a concern, a point noted by the Productivity Commission when it said that, "the level of data services has been constrained by limitations to the Customer Access Network".[12]

In terms of availability, Telstra CountryWide advised that in Townsville ADSL availability is in the region of 69,000 customers out of a total customer base of 86,500 (80%).

As of end August 2002, Telstra CountryWide had approximately 1,250 ADSL customers (including wholesale). This is estimated to be somewhere in the region of 2,350 customers now (September 2003).

Some Townsville residents and businesses simply cannot access ADSL services. According to Telstra CountryWide, approximately 420 customers in Townsville are connected to SPGS or SCADS. In addition to these customers, approximately 500-600 customers are reported to be outside the transmission limits for ADSL (around 5km from an ADSL equipped exchange).

In response to queries on this matter in August 2002, Telstra CountryWide advised that:

[12] Productivity Commission (July 2001) *International Benchmarking of Remote, Rural and Urban Telecommunications Services*, p. 105

> "Telstra is working on a process conforming to all regulatory requirements which allow us to use spare copper pairs where they exist to avoid pair gain systems. We hope to be able to make an announcement on this in the near future. Depending on the area, this will allow in most cases some 10-20% of customers currently blocked by pair gain to be able to be provided with ADSL on request."

Council is concerned that the situation may be worse than indicated by these figures. Information provided by Telstra to a 2002 Senate Estimates Committee suggests that pair gain systems impact at least 9% of telephony customers across the country. This would translate to at least 6,000 customers in the Townsville region that are excluded from ADSL because of the deployment of pair gain systems.

Limits to availability are also caused by the use of RIM technology that is not compatible with ADSL. Telstra CountryWide advised in August 2002 that of the 6 ESA's in Townsville that are equipped with ADSL infrastructure, approximately 17,500 customers are connected via RIM. Of these, around 8,000 have alternative path options for ADSL, and the remainder would most likely not get ADSL.

That is, at least 9,500 customers cannot get residential ADSL because of the deployment of RIM technology.

Telstra CountryWide advises that there are no plans to replace existing RIM technology, though two recent developments are noteworthy in terms of improving availability into the future. These are:

- The development of a small ADSL system called a 'Minimux', which is packaged to be able to fit into a RIM housing; and
- The development of a version of the CMUX to replace RIMS for new installations. These will be ADSL compatible, and at the time were expected to be introduced soon (early 2003).

Council acknowledges that Telstra CountryWide has recently given verbal assurances that it will shortly deploy its first Minimux solutions to service some residential customers in the Annandale area. While it is understood that technical difficulties have delayed this deployment, it is hoped that ADSL will soon be available to Annandale residents. Council also welcomes the verbal assurances of CMUX deployment in Douglas.

This is a positive step in the right direction, but Council believes that more can and should be done.

Council is concerned that Telstra's intention to halt further ADSL rollouts at exchanges "unless it is commercial viable" will adversely impact on the future availability of broadband services to Townsville region residents. At present, there are no clear indications from Telstra of what will constitute sufficient demand to justify an exchange upgrade, even though talk of a 'demand register' similar to the method employed by British Telecom has been on the agenda for over 12 months.[13]

Furthermore, Council is concerned with reports that there are some RIMS in the City that cannot be suitably upgraded. This will have long-term equity implications regarding access and availability of broadband residential services.

The absence of robust competition, in retail services as well as in network infrastructure, is one key factor behind the limited roll-out of ADSL compatible solutions.

Where ADSL is not available, alternative platforms can support broadband services. Specifically in Townsville Telstra CountryWide offers ISDN and satellite broadband services.

ISDN is available to over 99% of Townsville customers, however Telstra does not readily offer ISDN as a fast Internet option. Moreover, the $190.30 conversion from existing standard phone service and $42.50 per month

[13] Evidence given to Senate Committee, reported in *Australian IT* 7 August 2003 (http://australianit.news.com.au/articles)

charge for Telstra's ISDN HOME service to Townsville residents was perceived to be cost-prohibitive to at least some sections of the community.

It should also be noted that the ISDN service is not equivalent to the ADSL service – especially in terms of data transmission rates. ISDN supports data transmission rates of 64 or 128kbps; however simultaneous voice and data transmission reduces data transmission rates to 64kbps. ADSL on the other hand provides downstream options that range from 256kbps to about 2mbps and upstream range of 64kbps to 680kbps.

In this sense, ISDN and ADSL are not perfect substitutes and should not be promoted as such.

There have also been criticisms of an apparent lack of customer service provided by Telstra and the comprehensiveness of the information made available by the corporation about ISDN. In particular, inadequate information is made available from Telstra's web site and its customer service centres on why customers cannot access ADSL or ISDN.

Even information that is provided via the Telstra web site on ADSL availability has not always proven to be reliable, according to anecdotal feedback from City residents. At times, a phone number is entered into the site and is advised that ADSL is available; but when it comes to actually enabling the number the reality is quite different. The user is advised that in fact, ADSL is not available.

Residents make important life decisions, such as moving to new areas and are increasingly influenced by factors like whether or not an area has ADSL coverage. The absence of accurate information is adversely impacting on the lifestyle and residential decisions of many people.

There are serious questions about the reliability and age of the Telstra copper CAN, particularly the ability of the network to handle new technology advances. The current CAN is prone to service difficulties with the old copper wire (e.g. quality of joints, etc).

Council also notes with concern the impact of the use from the mid-1990s of a supposedly protective gel to encase the CAN. According to the CEPU:

> "The initiative was intended to reduce the fault rate and hence allow ongoing labour shedding without jeopardising network reliability. The effect has been the opposite.
>
> It has now become apparent that the gel used by Telstra reacts with moisture to break down cable insulation. Moisture is always likely to be present in underground cable to some degree, as over time even modern sheathing is permeable. Moreover the older the cable, the more likelihood there is of leaks occurring along it (i.e. at places other than the joints). This will result in increased fault levels not only at the joints but at other points of the network as the gel seeps along the cables and encounters moisture further along the cable run. The problem is being exacerbated by the air pressure maintenance difficulties ..."[14]

What is the situation in terms of the state of the copper cabling in Townsville?

The quality of the DSL service for users is limited in many respects by the performance (data rate) capabilities of the customer access parts of the existing PSTN and the newer technologies. The data transmission rate is affected by:

- The age of the copper line;
- The material used in the line's installation;
- The quality of the joints;
- The proximity of the line to electrical interference; and
- Distance from exchanges (length of line).

[14] Communications, Electrical and Plumbing Union (August 2002) Submission to the Senate Committee Inquiry into the Australian Telecommunications Network p. 19.

There is not much available data on the regional complexion of the quality of network issues. It is, however, worth noting the following:

- The Productivity Commission's benchmarking study pointed out that over 30% of Australia's PSTN network is over 30 years old and over 5% predates 1950;
- The same study also noted that Australia's CAN is based on a tapered design that means that the multi-pair cables that leave an exchange are broken down in ever smaller groups of copper pairs as they approach the user's premise; and that the tapering introduces the need for the use of joints; and
- An Australian Communications Authority (ACA) report made it clear that in the Boulding family case a combination of cable degradation and the use of digital pair gain systems had affected network reliability.[15]

Council is concerned that the quality of service received by Townsville residents and businesses is adversely impacted by the quality and nature of the copper networks in the City. Taking the Productivity Commission's estimates at face value, it could be extrapolated that some 35% of Townsville customers may be affected in terms of their ADSL service level – that is, over 30,000 customers.

3.1.3.2 Status of Competition

Secondly, the *extent of genuine competition* in the broadband market remains constrained. Competition between different providers and networks with different technologies is crucial to improved services, competitive pricing and greater end-user uptake.

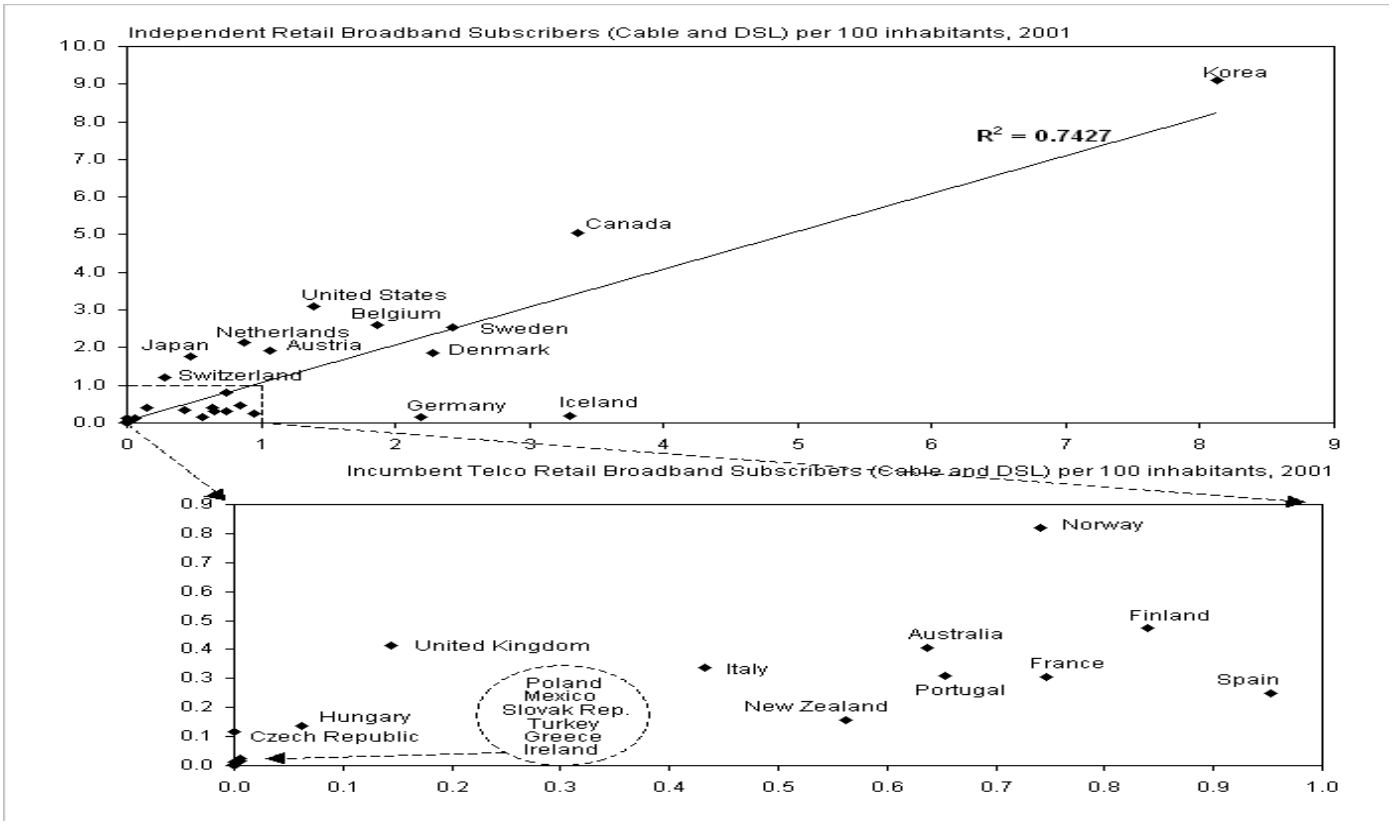
An OECD study found that there is a significant correlation between the growth of cable modems and DSL services.[16] The correlation results, shown

[15] ACA (March 2002), *Investigation into the Provision and Maintenance of Telephone Services to the Boulding Family*
[16] OECD (2001) *The Development of Broadband Access in OECD Countries* p. 9

in the chart below, confirm that broadband Growth is higher where incumbent telcos do not dominate the market and unbundling is making a contribution.

The study noted that in some countries the main competition to DSL comes from other technologies:

> "This is because either cable networks have not been developed or because incumbent telecommunications carriers own a large part of the cable television infrastructure. In these countries competition is sometimes emerging on alternative platforms and technologies."



In Townsville competition to xDSL services will not come from cable networks (e.g. TransACT, Neighbourhood Cable, Optusnet), as no cable infrastructure has been deployed and it is highly unlikely that it will in the future.

Vibrant competition in Townsville will only come about in terms of either competing retailers of xDSL services (i.e., Telstra and re-sellers) or alternative platforms and technologies such as smaller DSL or 'micro-cable' networks, or

fibre to the home, broadband fixed wireless etc. In the short term, the most likely area of competition will arise through growth in market entrants retailing xDSL over Telstra's network.

The 2002 ACCC *declaration of line or spectrum sharing services* in Telstra's national PSTN is welcomed by Townsville City Council, as an important and positive step towards ensuring genuine competition in the DSL services market.

As well, Council supports robust regulatory regimes to ensure third party access to the local loop, and which is made available at cost-based pricing, as this would encourage competition by reducing the financial barriers to entry and encouraging new market entrants. Cost-based pricing principles would not create disincentives for new entrants to invest in their own infrastructure and facilities. Instead it would allow new entrants to deploy infrastructure in a demand-driven fashion, and offer services to a wider range of consumers from the commencement of service.

In this regard, Council notes with concern that there appears to be limited competition in the Townsville broadband market with Telstra CountryWide apparently being the only significant provider servicing the business and residential communities.

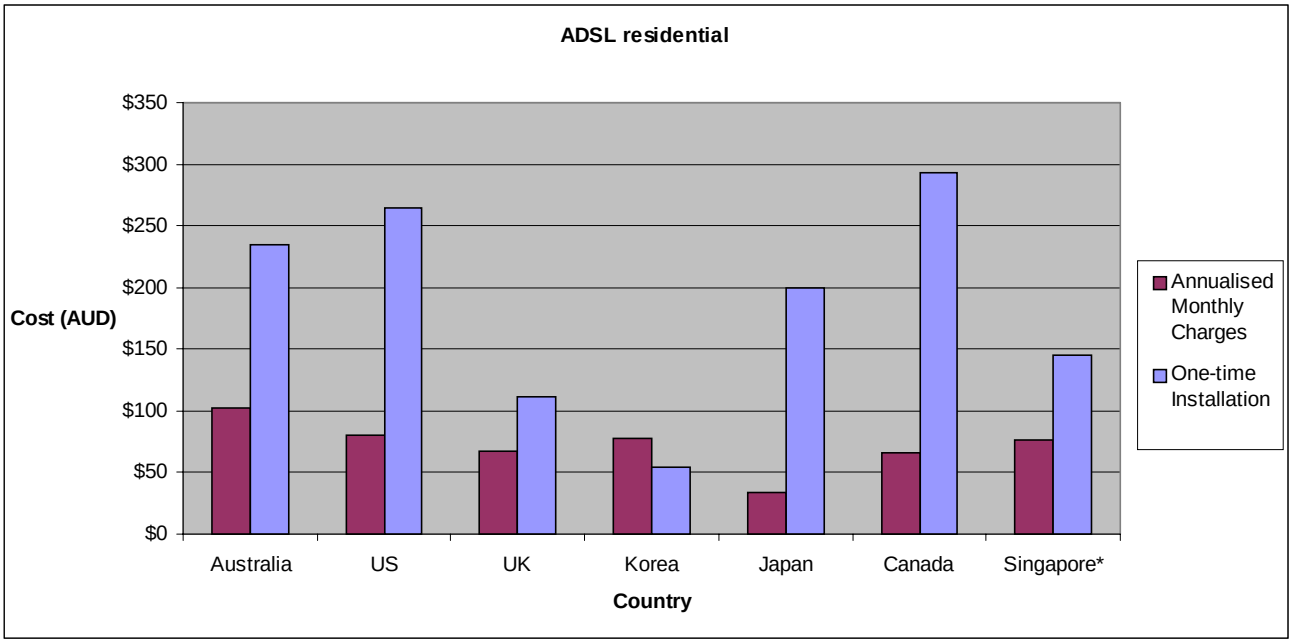
A recent study of telecommunications demand amongst business in Townsville found that 75% of the local business community's Internet/e-mail services were provided by Telstra, followed by Optus.[17] These findings mirror overall national market share data, which indicates that Telstra's national market share for broadband subscriptions is 72% followed by Primus (8%) and Optus (6%).[18]

[17] Transpac Consulting Pty Ltd/Townsville Enterprise Limited (May 2003) *North Queensland Regional Business Telecommunications Survey.*
[18] Rosemary Sinclair (ATUG) (2003) 'Broadband – critical infrastructure for the 21st century in Australia.

3.1.3.3 Pricing

Thirdly, *pricing of broadband* services remains unacceptably high and unattractive to many Townsville consumers. At present, the entry price level for domestic broadband services is around $60 per month plus installation costs. For many residents and businesses, this price is simply prohibitive or at the very least unjustifiable.

Comparative price data (see chart below)[19] shows that the cost of residential ADSL in Australia is comparatively high by international standards. The one-off installation cost in Australia is the 3rd highest of leading countries and the annualised monthly charges are the highest.



This is of concern because the *QCAN Study* found that:

- Households were prepared to pay on average $18.65 per month for the new (broadband) service – for the Townsville region the figure increased to $28;
- Households that were likely or very likely to use the service would be prepared to pay $31 per month;

[19] Rosemary Sinclair (ATUG) (2003) 'Broadband – critical infrastructure for the 21st century in Australia.

- "Results [of the householders survey] show that a service priced above $50 is unlikely to receive significant support with only 8.4% of consumers being prepared to pay $60 a month or more for the new service"; and

- Only 15.2% of Townsville residents would be prepared to pay $50 a month for a new fast speed Internet service.[20]

These findings are reflected in the *Queensland Household Survey – Computer and Internet Usage* (May 2001), which found that 23.3% of Queensland householders did not intend to obtain Internet access in the next 12-months because it was "too costly".[21]

As for business consumers, the survey found that:

- Businesses across Queensland would be prepared to pay on average $25.37 per month for the new fast Internet service;

- Businesses that were likely or very likely to use the service would be prepared to pay $61 a month;

- A service priced above $70 would be unlikely to receive significant support, with only 9.9% of businesses being prepared to pay more than this amount; and

- 10.1% of Townsville businesses surveyed were prepared to pay $100 a month.[22]

The apparent absence of genuine broadband competition in the residential and business market segments is of concern to Council, as competition can be expected to lead to some price reductions. It is believed that one constraint to effective household competition is that Optus did not place sufficient switches along the Reef Network to support domestic market entry, with the Network being predominantly used to support Optus' mobile network.

[20] *QCAN Study, Part 2 Appendix B,* p. 69-71.
[21] Queensland Government, Department of Innovation and Information Economy (May 2001) *Queensland Internet Ready: May 2001 Queensland Household Survey – Computer and Internet Usage',* p. 13.
[22] *QCAN Study, Part 2 Appendix B,* p. 138.

International studies[23] confirm that there is a high level of price elasticity of demand for broadband services (both cable and ADSL), which indicates that higher take-up rates will be strongly influenced by lower prices (and that conversely higher prices act as a major deterrent to take-up).

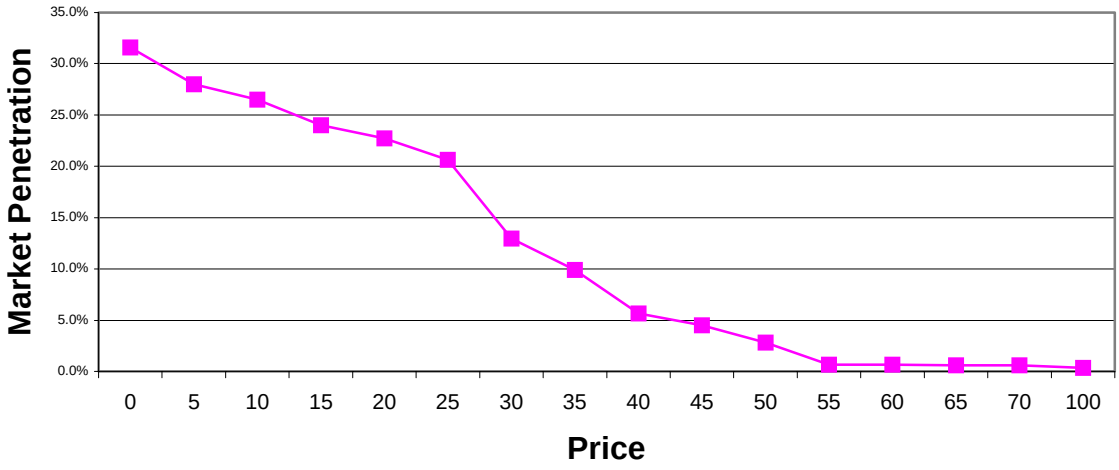
Table: Cable Modem Elasticities

Price (US$)	Elasticities
$20	-0.53
$30	-0.59
$40	-0.73
$50	-0.98
$60	-2.25
$70	-3.34

As well the research found that overall price elasticities of demand for DSL services ranged from –1.17 to –1.55, which indicates a high level of price sensitivity for DSL services. As the chart below shows, as price increases the degree of market penetration or demand for ADSL falls significantly.

[23] Rappaport, P., et al., (June 2002) *Willingness to Pay and the Demand for Broadband Services*, paper presented to 2002 ICFC Conference, San Francisco; and Rappaport, P., et al (2000) *The demand for high speed access to the Internet: the case of cable modems*, paper presented to the International Telecommunications Society Conference, Buenos Aires.

Figure 2: The Demand for ADSL



The recent experiences of UK broadband subscriptions growth confirm the dramatic growth in uptake in response to price reductions. British Telecom, NTL and Telewest have all slashed residential ADSL prices and subscriptions have grown from 150,000 to over 700,000 in the 12 months from June 2001 to July 2002.

In summary, the international research has found that consumers are deterred by prices as they increase – that is the higher the price, the greater the reluctance to consume. Local surveys confirm that similar behavioural patterns can be expected from Australian residential consumers, which reinforces the point that high prices resulting from un-competitive markets deters take-up from consumers.

3.1.3.4 Broadband Caps

Price elasticity is further impacted in the Australian context by the prevalence of broadband caps. Australia is one of the few countries that has caps, which act as a strong deterrent to the use of broadband applications by end-users. It is ironic that telecommunications is one of the few industries in Australia that actively promotes a limitation of use!

For example, Telstra's commercial rates for its 3Gb broadband service ($111 per month) puts it out of reach of many – if not the majority – of Australians. The price elasticities considered above clearly demonstrate that at these

prices, take-up would be quite low. This is despite the fact that no more than 10% of the national and international telecommunications backbones are currently being used, a situation that will not change unless there is increased user activity.

The price penalties for exceeding caps are also significant. Some ISP's 'throttle' services as users reach their caps; others allow users to continue using and charge very high surcharge penalties. Both of these responses have the effect of deterring usage of the broadband service, thereby reducing the public benefits of broadband service provision.

A key factor behind the prevalence of broadband caps (and high pricing) is the lack of infrastructure competition. Market dominance allows the (dominant) supplier to determine the rate at which services will be provided and made available to consumers. From Council's perspective, the lack of competition in infrastructure is therefore of considerable concern.

3.1.4 Wireless alternatives?

As previously stated the available of quality, affordable broadband is a critical issue for the Townsville region.

Wireless broadband services e.g. WiFi,[24] Bluetooth and 3G are not considered to be able to support mainstream mass broadband needs. Wireless technologies and applications will have niche opportunities to meet industry and domestic needs – they can fill in some holes, and may in fact prove to be useful 'tools' to service areas where other platforms cannot; however, Council does not see wireless as *the* pivotal platform to ensuring the region can effectively participate in the information economy.

Affordable and accessible xDSL services will be the main delivery platform into the foreseeable future, and should be the focus of policy and commercial considerations. Discussion of wireless technologies should be seen in this

[24] Even with fairly high speed capacity, the 802.11a standard has severe limitations in terms of range, the number of access points that are consequently needed and 'penetration'. These limitations will dramatically limit the technology.

context, and not be allowed to distract decision-makers from the ‘main broadband game’ – namely xDSL availability.

3.2 TERM 2

Any impediments to competition and to the uptake of broadband technology.

3.2.1 Competition Drives uptake

The existence of dynamic and vibrant competition – both in the retail sector and in terms of competing infrastructure (networks and platforms) – is a key driver of uptake of broadband technology. Competition creates efficient pricing, which is critical to greater consumer uptake of broadband services and applications.

3.2.2 Pricing and Caps

High prices are a major barrier to increased consumer uptake of broadband services and applications. Price elasticities and 'willingness to pay' measures identified in local and international research clearly demonstrate the negative impact of prices above A$20-30 on ADSL (and cable) take-up.

Council would also emphasise that the prevalence of bandwidth caps also acts as a significant impediment to broadband uptake.

3.2.3 Telstra's Structure and 3rd Party Access

The fact that the national PSTN network is operated within the same ownership structure as one of the nation's largest broadband service retailers is a major impediment to competition.

The very recent introduction of 'accounting separation' of Telstra's wholesale and retail activities is a positive step in this context. However, Council reserves its judgement in relation to the effectiveness of the new regime, which has only recently been introduced.

In practice, there appears to be some 'confusion' between Telstra's dual roles – that of being a wholesale network provider on the one hand, and that of a competitive retailer on the other.

Consumers have expressed concerns at various Council forums and directly to City Councillors that they will not be provided with suitable service levels if

they choose a retailer other than Telstra, because of concerns about Telstra's ownership of the network.

It is widely recognised that given the existing market structure, a transparent and properly regulated access regime, is a crucial precondition to enable competition to blossom. Council is of the opinion that the experiences of the last 7 years (since the introduction of 'competition' into the national telecommunications environment in 1997) indicate that the self-regulatory regimes have been inadequate and that proactive regulatory intervention from the ACCC has been necessary on many occasions to achieve some level of 3rd party access to the PSTN and thereby drive competition.

3.2.4 Bundling

The bundling of telecommunications and other services can have beneficial and detrimental effects, depending on the specific situation. Factors that need to be considered include:

- The extent to which market power is held by the carrier providing the service;
- The types of services being bundled;
- The structure of markets for these services; and
- Any price discounts that are offered.

It is beyond the scope of this submission to consider in detail the specific situation of the impact of bundling on competition in the Townsville regional broadband services market.

Council notes that bundling can generate a range of benefits in terms of efficiencies and pro-competitive outcomes. Economies of scope and scale may be achieved through bundling; and consumers may experience retail price reductions and service improvements.

While noting these possible benefits, Council is wary that bundling can be detrimental to competition in the longer term. For example when bundling is

used for anti-competitive purposes, it can lead to anti-competitive outcomes by foreclosing or reducing competition by enabling the leveraging of market power from one market to another. Barriers to market entry are thereby erected to the detriment of competition.

Additionally, predatory pricing can be anti-competitive if it leads to a vertical price squeeze. In this case, a carrier with significant market power or dominance sets prices below a particular measure of cost, thereby sacrificing short-term profits, with the effect of lessening competition by squeezing out equally efficient competitors and/or deterring future market entry.

Council is particularly concerned with the possibility of a dominant vertically integrated provider reducing its margin (between the retail price and the wholesale access price) so that it is no longer viable for an equally-efficient competitor to continue in the market.

3.2.5 Peering

Council is concerned that existing peering arrangements that operate between the nation's 'top 4' Internet Service Providers are creating cost disadvantages for small regional providers. Such a situation has potential anti-competitive consequences and could either squeeze otherwise efficient competitors out of the market or deter future market entry.

3.3 TERM 3

The implications of communications technology convergence on competition in broadband and other emerging markets.

3.3.1 Infrastructure Competition is the Key

Convergence can have anti-competitive impacts particularly when a dominant carrier has ownership control over a number of potentially competitive networks and platforms. This is compounded by legislative restrictions on the ability of content creators to deliver converged telecommunications and data services (e.g. video) over new platforms that compete with traditional broadcast media.

A key limiting factor in Australia is the cross-ownership by the dominant national telecommunications carrier and the nation's major pay-TV broadcaster. Telstra's 50% stake on Foxtel (and the Foxtel HCF cable network) creates an anti-competitive environment vis-à-vis Telstra's xDSL offerings. This has entrenched the market dominance of Telstra in ways that are unique to the western world.

In the US and various European countries, there is robust competition between cable providers and traditional telcos to offer broadband services and applications. The structure of the Australian market for telecommunications and pay-TV works against this type of competition and limits the capacity of consumers to choose between different service providers, different platforms and networks.

In regional Australia, Austar is the main pay-TV provider. However, Austar's historic venture into Internet service delivery has not proven to be a great commercial success and it is unlikely that Austar – which is rationalising its operations – will be a strong infrastructure competitor to the dominant PSTN operator.

3.3.2 Datacasting

Lastly Commonwealth Government legislative restrictions on datacasting as an alternative to existing broadcasting providers restricts the potential pro-competitive potential of convergence. Datacasting – the broadcasting of video content over the Internet – has the potential to drive competition in the converged 'media' space, offering direct competition to the digital-TV offerings of the pay-TV operators and broadband Internet service options to consumers.

3.4 TERM 4

The impact and relationship between ownership of content and distribution of content on competition.

3.4.1 Diversity of Voices

The ownership of content per se will not be strongly anti-competitive provided that there is robust infrastructure-based competition. The lack of such competition is therefore a significant concern. Additionally the potential anti-competitive impacts of bundling (discussed above) remain very real in the context of the ability of telcos to leverage market power in one market to gain an anti-competitive outcome in another. This can only be assessed on a case-by-case basis given the considerations detailed earlier.

As noted in response to Term 3 above, a competitive multi-media environment – e.g. datacasting flexibility together with genuine network-based competition supported by a transparent access regime to common infrastructure – would mitigate against the anti-competitive possibilities of integrated ownership of content and distribution channels. The TransACT model goes a long way to achieving this kind of open platform that fosters vibrant competition and service innovation.

This notwithstanding, Council supports a policy that encourages media diversity in Australia and would actively support a legislative and regulatory environment that promoted:

- Diversity of voices in local markets – including diverse ownership of regional television, print, radio and digital media;
- Local content creation, especially news and current affairs; and
- Live broadcasting of local (sporting and other) events via the Internet.

It is noteworthy that no North Queensland Cowboys (the local 'Telstra'-NRL team) game has been broadcast live on free-to-air television in the 2003 season. The irony is that the competition's naming sponsor is Telstra; and for legislative reasons (that is, restrictions on datacasting and anti-siphoning

rules) no business case could be made to support the broadcasting of such games live via the Internet! That Telstra is a 50% shareholder in Foxtel (which has re-broadcast rights) only compounds the reasons why live broadcasting of major football events that are of interest to the local NQ audience via the Internet are simply not possible.

In this regard, Council believes that diversity of voices can be actively encouraged by promoting greater uptake of broadband technology in the community combined with greater flexibility in the datacasting regime, so that alternative content providers – be they local, national or international – can deliver content-rich applications to consumers via the broadband services network.

Additionally, an urgent review of the anti-siphoning laws is required so that free-to-air broadcasters do not simply 'sit' on their rights and restrict the live broadcast of sporting events to local markets.

3.5 TERM 5

Any opportunities to maximise the capacity and use of existing broadband infrastructure.

Actions required to improve the availability of broadband services in Townsville include:

3.5.1 Network Management and Improvements

- As the agency responsible for supervising the technical quality of the national telecommunications network, a proper assessment and mapping of broadband availability should be undertaken by the ACA – taking account of pair gain, RIM and distance related difficulties. A 'true' picture of the current situation is imperative for proper policy decision-making;

- Additional investment in the CAN are required to ensure the availability of broadband is not jeopardised by network incapacity e.g. decaying copper;

- Back-installation of ADSL-compatible RIM technology (e.g. Minimux) to replace all existing ADSL-incompatible RIM technology is central to ensuring universal availability of the service. In this context, Council is concerned that earlier commitments by Telstra to retrofit upgrades do not now appear to be a priority.

    - As a minimum, Telstra should as a matter of urgency make clear the relevant 'demand thresholds' that it will apply to assess the 'commercial viability' of ADSL exchange upgrades;

- CAN upgrades are required to ensure pair gain systems do not impede consumer access to ADSL services – existing pair gain systems should be replaced;

3.5.2 Competition

- It is imperative to ensure effective competition can take place in the retail market for broadband services, particularly in the provision of xDSL services to business and household consumers;

- Central to competition is the need to ensure wholesale pricing transparency, so that genuine and fair competition can take place over the PSTN and CAN. The ability of the network owner to distort the retail market through cross-subsidies to its own or a limited number of 3rd party retailers must be regulated through clear separation and publication of wholesale and retail pricing principles and methodologies;

- Bundling moves particularly by arguably dominant players need to be carefully assessed on a case-by-case basis to ensure they are pro-competitive. Council supports the ongoing role of the ACCC in this regards;

- An urgent review of the anti-competitive impacts of peering arrangements is required to ensure local (smaller) ISP's are not discouraged from participating in the retail market;

- Ensure competition can exist between Foxtel's and Austar's infrastructure and Telstra's xDSL infrastructure. Council believes that Telstra's existing 50% stake in Foxtel conflicts with this pro-competitive objective and should be reviewed;

- Relax existing restrictions on datacasting to encourage content providers to deliver multi-media content e.g. video, to consumers via an IP environment, thereby generating competition between traditional broadcast media networks and new 'converged' technologies. This will have the added benefit of encouraging diversity of media voices;

- Encourage the abolition of broadband caps – though Council recognises that vibrant competition is arguably the main instrument through when this will be achieved in local markets;

- Urgent review of anti-siphoning laws (in conjunction with relaxation of datacasting regulations) to promote the broadcast of sporting events via the Internet, when they would otherwise not be aired;

- Townsville-based data service retailers (e.g. local ISP's) should be encouraged to retail xDSL services to the household and business sector. Opportunities to foster their involvement can be developed around the idea of broadband service brokers, who can aggregate local demand to encourage service level competition. To this end, Council is encouraged by the prospects of Government funding of broadband aggregation activities in regional communities; and

- Local initiatives to deploy infrastructure should be encouraged, and efforts to 'broker' and 'leverage' local demand to encourage infrastructure deployments also should be supported.