



# **REGIONAL TELECOMMUNICATIONS REVIEW 2015**

## **SUBMISSION**

**Local Government Association of Queensland Ltd**

**15 July 2015**

The Local Government Association of Queensland (LGAQ) is the peak body for local government in Queensland. It is a not-for-profit association set up solely to serve councils and their individual needs. LGAQ has been advising, supporting and representing local councils since 1896, allowing them to improve their operations and strengthen relationships with their communities. LGAQ does this by connecting councils to people and places that count; supporting their drive to innovate and improve service delivery through smart services and sustainable solutions; and delivering them the means to achieve community, professional and political excellence.

## Executive Summary

The LGAQ recognises the vital importance telecommunications provide to people living in rural and regional Queensland. The services delivered through telecommunications pervade every aspect of our society. These services underpin the basic characteristics of an advanced western society. Access to health, education, participation in the economy, and social benefits are key to future growth and development.

In Queensland, the importance of telecommunications is further emphasised because of our uniqueness in sharing an international border with Papua New Guinea. This means matters of defence, national security and bio-security require special consideration in terms of telecommunication infrastructure, access and services.

It is understood that the Australian Government's Northern Australia strategy is currently being developed and it is hoped that it will also recognise the need for funding of telecommunication projects that are essential to support growth.

At the state level, the importance of telecommunications is recognised at the LGAQ's Annual Conference where motions submitted by Councils and Regional Organisations have been a regular characteristic for the past decade. The motions call for improvements to services, infrastructure and support to ensure that rural and regional communities have the best possible chance to participate in the digital economy.

The Regional Telecommunication Independent Review Committee (RTIRC) discussion paper provides an opportunity to raise a number of areas concerning access to services and safeguards for rural and regional Councils and their communities. The LGAQ believes that the areas for consideration should focus around the following key points:

- The need for our small rural and regional communities have a robust and scalable core infrastructure;
- The need for improved mobile phone coverage on national highways and key strategic development roads;
- The need to protect Universal Service Obligation (USO) voice in areas where satellite data is the primary access technology; and,
- the opportunity of Public Private Partnerships (PPP).

In addition to these points, the LGAQ will also make the following general comments on a number of issues identified in the discussion paper.

The discussion paper appears to adopt classifications based on National Broadband Network (NBN) service delivery areas i.e. fixed, wireless or satellite. This approach over-simplifies rural and regional Australia. While the LGAQ believes there is a need to classify delivery areas, a key point is to recognise that rural and regional communities have a different telecommunications architecture and availability of services even compared with those available to people living on more remote properties. That is, there is a need to deliver solutions specific to local needs.

Each access technology has a specific purpose and role and should not be transposed to overcome problems that it is not designed to do. For example, the use of satellite within the perimeters of a town where low-latency or terrestrial based services already exist or using the NBN satellite as a possible USO substitute.

Ensuring the right technology is used in the right setting is particularly important when considering the needs of a rural and regional community. Because many small towns are hubs for state and local government services, the access technologies should be at an enterprise level of quality as opposed to consumer-grade services.

This could include health, education, police or other Government services being delivered terrestrially at the regional centre, through robust telecommunications, thereby providing symbiotic benefits to both suppliers and consumers.

Satellite technology is not a panacea in itself, but rather will play an important role for some people i.e. those living on properties where a point-to-point communication satellite service is the only service available and where low-latency services are not available.

However, in these situations there is still a need for basic services to be delivered which are important for School of the Air and other applications where small groups of people e.g. students, farmers, or others with a common interest require to collaborate “on-line”.

### **Robust and Scalable core network**

Some small communities and towns in rural and regional Queensland, already access services (mobile phones, DSL products, enterprise services etc.) which are available in exchanges that are connected via a core optic fibre network with diverse optical fibre paths.

However, the issue that is emerging is there are communities where scalable and robust core backbones are not available. This is resulting in the failure for technologies to grow or evolve which ultimately results in services being congested, and prevents technology evolution and scalability. This issue of technology ‘bottlenecks’ includes those communities that are at the end of the high capacity digital radio system, which can no longer be upgraded, and communities that are on an optic fibre spur line.

Some communities in the Gulf and Indigenous communities in Cape York are suffering because of the high demand and growth in accessing data, but investment in the core network is not keeping pace. The decision for carriers to invest in the core network for these small communities is commercially unviable because it usually involves expensive solutions (long optic fibre runs rural and regional communities hence poor return on investment).

Another point is that some communities may be on an optic fibre backbone, but it is an optic fibre spur line. Because it is a single fibre route, the risk of continuity of service becomes important as it a single point of failure whereby any damage to the fibre could result in towns and communities being isolated. The risk to damage of an optic fibre is highest usually in association with extreme weather events, so when the services are most required, communications with these communities is very limited (or not available at all).

Good network design requires a robust and scalable core network which is characterised by the creation of optic fibre loops. The creation of loops require separate diverse networks paths and once certain technologies are introduced, it results in communities having data services that are scalable, robust and have increased likelihood of continuity of service.

In some instances, Councils such as Diamantina and Barcoo are investing in core telecommunication infrastructure to ensure current and future needs of their communities are being met.

Councils are making these investments because it is not commercially viable for traditional network providers to invest. In some instances, the Australian Government and State have assisted, but the focus on ensuring our communities in remote areas have the scalability and redundancy in their core infrastructure is vital.

## **The need for improved mobile phone coverage on national highways and key strategic development roads**

The LGAQ recognised and welcomed the 25<sup>th</sup> June 2015 announcement by the Australian Government regarding the \$100m mobile blackspot program.

It will result in 68 new base stations in Queensland (61 Telstra; seven Vodafone) and will also result in additional micro-cells being built in town locations which require improved in-building coverage and where existing infrastructure exists.

The announcement also included that the mobile blackspot program would be extended and Round 2 would include an additional \$60m in funding.

The additional funding is greatly appreciated and welcomed. It should be noted that during the consultation stage, a total of 975 sites were identified in Queensland by organisations, members of the community and local government. Of the 975 sites, 328 sites were dismissed because hand-held or the use of an external antenna would result in mobile network coverage.

Hence there were at least 647 sites throughout the State where there is a need for mobile phone coverage and while an additional \$60m for Round 2 is appreciated, further additional funding is required.

The funding for 68 sites is appreciated as a start, as is the additional funding for Round 2, but there remains a considerable number of areas throughout the state that require more funding.

## **The provision of Universal Service Obligation (USO) Fixed Telephone services using NBN Internet Technology.**

As mentioned previously, the most remote areas of Queensland rely on the provision of satellite services for accessing the internet. When made available next year, it is expected that the NBN's Long Term Satellite Solution (LTSS) will deliver significant improvements to these remote customers. The "beam technology" that delivers LTSS has been used successfully in the Northern Hemisphere has yet to be deployed under Australian conditions. Numerous references on the NBN website recognise that because of the nature of the technology and the bandwidth frequency used, the solution is prone to attenuation which based on the North American experience could be up to 10-days per year where families are without services.

There have also been indications that the use of NBN LTSS could be used as a possible USO substitute. Comments made by the Minister Assisting the Communications Minister on the 23<sup>rd</sup> April at ABC Longreach, made reference in providing USO fixed telephones in areas which the Department terms Legacy USO areas.

Legacy USO areas are those where telephone services will not be provided via NBN's optical fibre network. This includes Fibre to the Node and where existing Pay TV Cables are in use.

In the more populated country areas, copper cables (some of which can be up to thirty kilometres long) are used to provide USO fixed telephone services. In other areas, various forms of Wireless (Radio) are used, including HCRC (High Capacity Radio Concentrators), Wireless Local Link (Fixed phones provided via the Mobile Phone Network) and Single to Multichannel Wireless. A small number of telephone services located in very remote areas use Satellite with a telecommunications platform. There are approximately 28,000 services in Australia utilising the Wireless system with the bulk of these (approximately 21,000) in Queensland.

The cable and wireless services are aging and will require upgrading or replacement over the next few years. Telstra previously owned and operated these networks, but now operates these for the Australian Government. Shortages of trained staff, lack of availability of parts and failure to carry out essential maintenance have reduced the reliability of outback services, with repair times increasing. It

has been suggested that USO telephone subscribers who will utilise the NBN LTSS (for internet access) will have their USO Voice services moved on to the NBN LTSS.

NBN LTSS is a high latency (delay) internet system that introduces at least 500 milliseconds delay into any voice call. A NBN LTSS based phone call to another NBN LTSS based phone would experience a one second delay in transmission as this call would “double hop” through the satellite. e.g. phone A to satellite to exchange to satellite to phone B, each time the call transits the satellite the delay is 500 milliseconds, so going through the satellite twice gives a 1000 millisecond (1 second) delay. So if “A” says “how are you”, “B” will hear it 1 second later. “B” replies “OK”, “A” will hear that reply 2 seconds after they posed their original question.

In practice a School of Distance Education student or any other users who need to use a Teleconference Bridge will experience that one second delay e.g. Student A to satellite to exchange to teleconference bridge to exchange to satellite to Student B.

Any sort of group activity such as music would not be possible because of the 1 second delay. Telstra’s existing USO Satellite Network, which is used in very remote areas, has a built in Telecommunication platform that ensures that the maximum latency (delay) between satellite users is limited to one hop. It still experiences the same problem when a teleconference bridge is involved if there are two students using the USO Satellite Network, however this is extremely rare.

The previous Australian Government advised that as the NBN LTSS (permanent satellites) is designed for internet only.

## **PPP – Public Private Partnership**

One of the key themes in this response is the recognition that traditional investment models are not viable. With large geographic distances and small populations, it is unlikely that investment in core and access infrastructure is commercially viable for carriers or network providers through traditional investment models that require a positive return on capital.

There have been examples under both the Howard and Abbott Governments that have provided opportunities for carriers to make significant investment in rural telecommunications. These opportunities were characterised by the Australian Government providing considerable funding through a tendering process that encouraged carriers to respond.

The most recent example is the Australian Government’s Mobile Blackspot Program. An initial investment of \$100m resulted in a total investment of \$385m, which included a significant investment from State Governments, and investments from local government, mining and resource companies and community development organisations.

Under this model the maintenance and network upgrade becomes the responsibility of the carrier thereby establishing a defined financial commitment for Councils.

It is evident that when the Australian Government offers a considerable amount of funding, in this case \$100m for mobile blackspots, the carriers, State Governments, local governments and other organisations respond in such a way to maximise the initial investment. By offering \$100m for investment, a total of \$385m will be committed from the previously mentioned groups which results in many additional sites being funded, which would otherwise miss-out on these important services.

## **Conclusion**

The LGAQ is a strong supporter of encouraging Councils to participate and obtain the benefits from the Digital economy. But, in its simplest form, this requires core and access telecommunication network to be available in small and remote communities.

The environment for telecommunications in Australia is very complex and continues to change. Raising awareness as to what is possible using existing technology, while also ensuring that the networks that underpin the economic development of rural and regional communities, is crucial to maintaining a healthy regional and national economies.

Recent investments by the Australian Government on areas like mobile black spots will be successful because of the large investment which has been matched and added to by many other parties, including carriers, State and local government.

The LGAQ appreciates the opportunity to respond to this discussion paper.