

Hunter Valley Wine and Tourism Association - Response to Australian Government Regional Telecommunications Review 2021

Introduction

Unfortunately we were only made aware of this opportunity to respond to your committee very recently.

The HVWTA is an industry organisation representing wineries, cellar doors, restaurants, hotels, smaller accommodation housing and tourist cabins and tourism experiences available in the Hunter Valley, NSW. Our industry contributes in excess \$630m to regional GDP, and we work in an alliance with local government to welcome significant numbers of tourists to the area every week (in normal times). Apart from the business facing land use, we are home to many people who have moved to the region from the city, as well as long term rural and residential residents.

Fortunately we have just completed a project with Singleton Council and Cessnock City Council to investigate the broadband and cellular data deficiencies and coverage issues in the lower Hunter valley. We focused on the non-city/town areas as these frankly have very adequate nbnco and Telstra (Vodafone/Optus) infrastructure already installed, and the winecountry area is where all of our membership comes from. We were prompted to do this following the finished roll-out of NBN FTTK/P and FW in the wine country 1 region, and the continuing problems we are experiencing with cellular systems particularly on weekends with 20,000+ additional visitors streaming into the area.

I have included a presentation that goes to the heart of many of the questions you have posed. It is based on a survey we did in the first week of September 2021 and covered residents and businesses of both LGA's. While a significant number of the 203 response related to the winecountry areas specifically, we also saw significant responses from the more remote residents and businesses in areas such as Laguna, Wollombi, Milbrodale, Broke and other locations in the LGA's.

We have mapped the location of the respondents on an interactive map - the doclinks inside the attached report take you to the maps for both LGA's and for the proposed pilot area for winecountry 2.

We refer you to this report.

Our responses to your questions are in italics.

Changing Demand

1. What telecommunications services are required in regional Australia to meet current and future needs? Are there any things regional communities and businesses need to do, but can't, on their existing services

We need better broadband and cellular services. It is essential that regional residents and businesses can access broadband capabilities enjoyed today in the cities. More people are moving to our region due to its relative closeness to Sydney and the fast motorway access provided. Today's applications and data are domiciled in the 'cloud', more people are consuming movies and other media via internet, gaming, zooming and the Internet of Things requires more and more both fixed and mobile data communications - so low latency, fast access and down/up load speeds are increasingly important.

When I investigated what internet speeds were needed, so as to put a target line in the sand, the best I could come up with was an article from [HighSpeedInternet.com's How Much Internet Speed Do I Need? guidelines](#).

What internet speeds do you need? (My answer would be as fast as you can get, with unlimited data, at the price you want to pay!)

| | |
|------------------------|--|
| <i>0–5 Mbps</i> | <i>Send emails, search Google, stream in HD on a single device</i> |
| <i>5–40 Mbps</i> | <i>Stream in HD on a few devices, play online games, run 1–2 smart devices</i> |
| <i>40–100 Mbps</i> | <i>Stream in 4K on 2–4 devices, play online games with multiple players, download big files quickly (500 MB to 2 GB), run 3–5 smart devices</i> |
| <i>100–500 Mbps</i> | <i>Stream in 4K on 5+ devices, download very big files very quickly (2–30 GB), run 5+ smart devices</i> |
| <i>500–1,000+ Mbps</i> | <i>Stream in 4K on 10+ devices, download and upload gigabyte-plus-sized files at top speed, do basically anything on lots of devices with no slowdowns</i> |

Lockdowns and city to regional drift means we need better capabilities here. The lockdowns associated with Covid-19 meant that more people need to access fast internet for schooling, business applications, remote health and conferencing not to mention the increased gaming and downloads now taking place. And when things return to normal and we welcome 20,000+ visitors to Winecountry over weekends we need a mobile cellular system that expands its capability to provide better service

levels. Not to mention properly servicing areas that are in black spots or severely challenged 4G reception!

We want a competitive, expandable and renewable technology base and business models. Because of the mix between many smaller businesses, medium sized business and a number of larger businesses with a growing number of residential properties, we are seeking nbnco and Telstra solutions that offer competitive contract options for every tier of customer demand. There are other Telco organisations out there exploring alternative Testra options, as well as Starlink (low orbit satellites) coming from year end, so while we would prefer a robust fibre based solution, we are to an extent agnostic on the technology solution or providers. We support competitive solutions that offer broadband data solutions to the most users with competitive plans from as many providers as there can be in the market. We are realists though, and recognise the economics of too many solutions may not be viable in rural and regional situations. In a wine tourism area there is a core need to support the data volumes and speeds required by cloud-based business applications, significant guest data uses, and the normal data needs of families.

- a. Our report outlines the needs, and how far short of servicing them the current traditional POTS, ADSL, Satellite and nbnco and Telstra broadband services fall.*
- b. Cellular service suffer significant contention due to the number of visitors particularly on event weekends.*

2. What changes in demand, barriers or challenges need to be addressed when it comes to telecommunications services in regional, rural and remote Australia?

The main telecommunications services used in both regional, rural and remote areas and urban Australia are mobile voice and data, broadband internet, satellite and fixed line voice services that also provide ADSL data services. In addition a number of alternative Wireless Internet Service Providers (WISPs) have deployed regional fixed wireless networks. In addition to these services, both Telstra and nbnco provide enhanced enterprise internet capabilities targeting major businesses and high volume communication users that are provisioned across either nbn or Telstra fibre to the premise.

Apart from supporting general and emergency mobile communications, the cellular network has become a fall-back for data communications for many premises.

In Winecountry 3G/4G reception, access and contention during large 20,000+ visitor weekend events are an issue that degrades its usefulness particularly for business cloud based applications. 5G was announced but has not yet been provisioned apart from the towns and The Vintage areas. Colloquial comments suggested there were significant areas in the LGA experiencing either mobile black spots, or significantly degraded access and speed related to the 3/4G system that our survey evidences.

Given the restricted speed of the older technology and the cost/types of plans offered, our businesses and premises in Winecountry 2 and other LGA areas such as Laguna and Milbrodale cannot achieve the data speeds, download volumes or timely access that many people today take as normal. Instead of 100Mbps with unlimited

data for around \$100/mo, the survey showed that premises in this area faced 2-25Mbps download speeds and slower upload speeds with unacceptable latency for cloud based or zoom-like applications. As this recent survey has shown, some businesses could not even achieve this really basic access. It appears that plans our residents and businesses have to adopt given the technology available are both more costly and come with download speed, time, and data quantity restrictions not associated with city nbn plans.

During the recent CV19 lockdowns requiring work/school/medical from home, this area found itself in a disadvantaged data environment. The CV19 check-in and passport requirements coming when business reopens will exacerbate this situation.

3. How have the Government's policies and programs affected telecommunications service outcomes in regional, rural and remote Australia? How can these be improved?

We recognise that the deployment cost for both broadband data and cellular telephony are more significant for us with mountain and hilly areas, and with relatively sparse customers compared to built up areas, making business cases for investment in these technology infrastructures harder to prove.

We appreciate the levels of additional investment needed for the community to access the same level of broadband and data services as you can in the major cities. After all, the things we need data to support are similar - if you have a business today you need to access broadband data and cellular to compete and deliver services. If you have a family today, they will want to access media, play interactive games, exchange photos and emails, zoom etc.

Despite the statement by Government that the National Broadband Network (nbn) was declared finished at the end of 2020, additional government funding and support is essential to ensure that regional areas experience adequate broadband and cellular infrastructure. Building business cases and finding funding from non-nbnco/Telstra etc sources to build and amplify their infrastructure is not something regional customers or councils can do without widespread government support.

The one thing you could do to drive this shared investment is to create a 2021 style USO policy that requires the delivery of 100Mbps plus data streams to every resident, along with telephony and cellular coverage. Then draw up a plan, region by region, of what it will take to do that. Then decide how we are going to fund that - either through taxation, a small charge on all data and phone services to create a "future USO fund". Then establish timelines and plans to do it.

Service Reliability

4. How do service reliability issues impact on regional communities and businesses? How do outages, including in natural disasters, impact on communities and businesses?

The inability to communicate to residents as a result of service outages is exacerbated by distance in rural and remote areas. They can't just walk outside and talk with people!

I believe you would be clear that the use of wireless (ABC), cellular warnings, and ability to access news and fire warning sites all require robust communication capabilities.

The 2020 fire season proved the need to invest in improving the reliability of the cost communication technologies in the regional areas - power backup, replacement towers, alternative circuits serving communications infrastructure etc.

I draw your attention to our survey responses related to perceived user happiness with respect to drop-outs, reliability and reception issues experienced in our area.

What became clear from the survey is the range of download data speeds experienced, some limited by the plan the respondent subscribed to, but others by terrain, aerial, continuum of device technology used etc. Most respondents were critical of their existing older technology internet/broadband - and only 21% were happy campers...

| Broadband technology used | Respondents using technology | Speed from | Speed to | Most plans subscribed to | Perceived User Happiness Assessment | | | | | Completely happy |
|---------------------------|------------------------------|------------|----------|--------------------------|-------------------------------------|-----------|--------------|------------|------|------------------|
| | | | | | Speed/Latency | Drop-outs | Reliab-ility | Recep-tion | Cost | |
| nbn FTTP | 17 | 9 | 100 | Unlimited | 👍4 | 👎1 | 😊2 | 😞0 | 👍0 | 9 |
| nbn FW | 26 | 5 | 50 | Unlimited | 👍10 | 👎8 | 😊0 | 😞1 | 👍0 | 10 |
| SkyMuster Satellite | 62 | 3 | 92 | 50GB - 150GB | 👍22 | 👎13 | 😊8 | 😞13 | 👍9 | 8 |
| ADSL | 49 | 1 | 22 | | 👍41 | 👎15 | 😊9 | 😞3 | 👍0 | 9 |
| 3G/4G | 46 | 18 | 50 | 100-500GB | 👍20 | 👎3 | 😊6 | 😞13 | 👍2 | 5 |
| IDL | 3 | | | | 1 | | | 2 | | 1 |
| * Total | 203 | | | | | | | | | 42 |

5. How might such impacts be addressed to ensure greater reliability? How can the network resilience be addressed in regional areas?

a. Large generators positioned at strategic SES locations and infrastructure designed with more battery backup capabilities and the ability to easily connect external power to them (e.g. cell and nbnco towers)

b. Network design providing more fall-over redundancy

- c. *Consideration of satellite backup to major components and the deployment of dishes and termination devices to allow for emergency switchover from say nbn broadband or cellular services to satellite at the point of the router in the premise*

Covid-19 / Indigenous Australia

6. How did the use of digital services change for regional consumers and businesses during the response to the COVID-19 pandemic? What insights for future service delivery does this provide?

That's an easy one - the use of ANY available data communication capability increased dramatically with home schooling, work from home, and remote medical consultation needs.

There were many responses to our survey that identified the needs associated with regional living and businesses that are good examples of the issues people face. As shown in the slide above, the concerns were with access, reception, speed and reliability to services from nbn broadband through ADSL through satellite to cellular connections that exist today.

7. What can be done to improve the access and affordability of telecommunications services in regional, rural and remote Indigenous communities?

Establish more funding to offer similar service levels to those experienced in the city. Investigate new technology such as Starlink as broadband delivery options rather than investing in slower nbn through fixed wireless - and provide a subsidy to users to make the cost of plans the same as experienced in the city.

Strengthen the 4/5G network in country areas - perhaps evaluate further subsidies to make 5G the broadband option in certain areas.

Regional Development

8. How can investment in telecommunications infrastructure work with other programs and policies to encourage economic development in regional Australia?

Our current wine tourism industry established in the Hunter Valley is one employment alternative to the expected run down of the coal mining industry here. 100Mbps broadband services are crucial to establishing competitive businesses outside of cities. We only have that where nbn or Telstra have run optical fibres - there should be a priority to extending this to most of the region.

The interplay between devices, IoT and tourism experiences when visiting and staying in Winecountry Hunter Valley increasingly consumes significant data assets. The current cellular and broadband networks are stretched to the point that they are not delivering adequate service levels.

Any substantive economic development (e.g. Hydrogen power, battery technology, shopping etc will require broadband level data services in order to compete with similar sites near or in cities.

9. What role could innovation, including new models, alternative investors or new ways of doing business, play to encourage investment in regional telecommunications infrastructure? What are the barriers?

In the end the political challenge is how to fund equal broadband and cellular infrastructure in areas with greater distance between customers and varying landforms than equivalent areas in cities.

We are in a data environment where the average premise uses 356GB of data each month. Telstra advised us that their mobile data usage was rising by 50% a year at the moment. So there clearly is demand out there - the trick will be servicing this demand at a price both the resident/business finds acceptable, contracted with the cost of communication technology infrastructure provisioning in regional areas.

Co-investment funding - like being required in the current nbnco extensions, is simply a way to divert available funding programs to telecommunications assets. In the end it is a political decision. A new USO for broadband etc policy could provide better and more significant focus.

New technology innovation and early adoption is part and parcel of how this technology has evolved. Think back to the 1970's - we all existed mainly with POTS and only large companies had significant ability for data communications. Then along came cellular in the late 80's. From a data sense when I began working in 1974 we still used teletypes to send data, and that evolved into faxes then emails as we now use. All in less than 40 years! As the pace of technology innovation accelerates with IoT applications, we need a way to research what the new technology will be in say 5-10 years and position to either build that or become an early adopter. After all, the innovation in data and voice technologies will continue to evolve faster and faster so staying in front of the next wave, and ensuring that we don't invest in potentially stranded assets that will become apparent in say 10 years time is a challenge for both governments and businesses in this space.

Community consultation and input on what is/will be needed to ensure the telcos and broadband delivery companies are deploying the correct assets to address current and emerging communication needs is also a critical link.

Emerging Technologies

10. To what extent will new technologies enable significant change to the delivery of telecommunications services in regional Australia over the next 5-10 years? Are there any barriers to accessing these technologies?

5G, 6G, 7G etc will offer faster and longer communications services, so spectrum regulation will be critical to regional areas so these newer technologies can be rolled out.

Constellation low orbit satellites (such as Elon Musk's Starlink) may be a better, faster and more effective way to deploy broadband in sparsely populated regions, but government should be encouraging Australian owned entities to deliver this service if it is to become mainstream due to the sovereign risk of relying on a foreign owned company entrusted with this service if it takes off.

Cost is the main barrier.

11. How can Government better support the rapid rollout of and investment in new telecommunications solutions in regional areas?

The million \$ question. See my response to your question 3.

Maximising Outcomes

12. How can different levels of Government, the telecommunications industry and regional communities better co-ordinate their efforts to improve telecommunications in regional Australia?

These solutions need a government focus at 3 levels:

- Strategy and forward research should be at the Australian G level. Given the cost of these infrastructure investments, and the imbalance of commercial value in regional/ remote customers to city customers requires some cross funding at the Australian G level (from GST, or specific tax sources) in order to deliver adequate services. This level of government is also responsible for regulatory frameworks and management of spectrum etc*
- The States and Local Government should see the need to invest in and deploy the data super highway and cellular systems as they do railways (but only 1 gauge, Victoria and Queensland!). They should provide some planning and funding to its rollout.*
- The telco industry needs to then operate to deliver the agreed technologies and service levels in a competitive environment*

13. What changes to Government investment programs are required to ensure they continue to be effective in delivering improved telecommunications?

I see the challenge to be in appropriately funding a minimum level of service and to then encourage innovation in technology adoption/expansion in rural/remote areas given the ROI equation will never favour residents or businesses in these areas.

Education

14. How can regional consumers be better supported to identify, choose and use the best connectivity options for their circumstances, as well as to understand and use their consumer rights?

Our survey identified a gap in the following areas:

- *understanding the end to end technology meshing needed to get maximum speeds from available technology. I saw instances where businesses were trying to use old router/wifi technology connected to nbn fibre - and getting sub optimal speeds as a result. So this optimisation needs to happen at the physical device level, and the need is to provide information and maybe consultants focused on making this happen.*
- *the next gap is at the virtual level - understanding how the data services can be best accessed across the network provided by selecting the right provider and plan.*
- *next, at the service provider level, and that relates to optimising their wholesale network access arrangements with the service plans they offer.*
- *the current service plans that offer "best endeavour" speeds etc are worthless - specific data download/upload speed and capacity levels need to be established and enforced under consumer protection.*
- *it shouldn't be much longer until the whole industry standardises on a level of service delivery that sees 50Mbps as the minimum required, with unlimited data and the onus on the service provider to provision their physical and virtual networks to deliver this.*
- *the consumer needs to get a better level of response to issues and problems once they notify their service provider of them, with a framework of specific enforceable resolution targets established the provider must conform to or face financial or exclusion penalties.*

Public Information

15. To what extent is public information on connectivity options, including predictive coverage data and speeds, sufficient to help regional customers make informed decisions? What other information is needed?

It is currently insufficient and confusing, and is focused on “selling” a particular plan to a customer while mostly obscuring the performance conditions in the small print.

To an extent the canny customer will make use of analysis and comparative services such as Canstar to rank and evaluate offerings.

I suspect this is an area ripe for an artificial intelligence application that begins by stepping the customer through their physical devices and wifi, their needs, any known connectivity issues and then looks at an industry database of available technology and plans to recommend some better solution.

There could also be a 4/5G Blackspot identification app that allows a user to easily identify blackspot areas in the mobile network, with appropriate reporting on a regular basis using maps such as we have used in our survey analysis to show the highest concentration of blackspots to be addressed.

Similarly there could be a connection doctor app that works to identify the root causes of connectivity problems and suggest solutions.

This is such a complex and esoteric area that we need to give the consumer the tools to access a knowledge base and find plans and solutions that help them move forward.

16. What other matters should the Committee consider in its review and why are they important?

We refer you to the conclusions in our attached report.