



The Hon Luke Hartsuyker
Chairperson
2021 Regional Telecommunications Review Secretariat
Department of Infrastructure, Transport, Regional Development and Communications
GPO Box 594
CANBERRA ACT 2601

Via email secretariat@rtirc.gov.au

Dear Mr Hartsuyker,

The current state of telecommunications is a key issue for all of us here in the Central Darling Shire and the current COVID-19 pandemic has particularly exacerbated the community's heavy reliance on an already subpar telecommunications situation across the Shire.

Whether it is improved mobile coverage or better access to broadband internet, the Central Darling Shire Council has a firm priority of working in concert with national carriers such as Telstra and the NBN Co, to improve telecommunications connectivity within the Central Darling Shire.

Please find attached our submission to the 2021 Regional Telecommunications Review.

I would also like to take this opportunity to thank the Regional Telecommunications Independent Review Committee for the work it does and the opportunity to provide input to the review.

Please contact me on (08) 8083 8900 or via email council@centraldarling.nsw.gov.au if you have any questions or require further information.

Regards

Mr Greg Hill
General Manager
Central Darling Shire Council
29 September 2021



Central Darling Shire Council Submission to the 2021 Regional Telecommunications Review September 2021



Brief background of the demographics and geography of the Shire region

Located in the far west of New South Wales (NSW) and covering 53,511 km² the Central Darling Shire is geographically the largest shire region in NSW.

According to the Australian Bureau of Statistics (ABS) the estimated population of the Central Darling Shire in 2020 was 1,829 with approximately 50% of the population (900) identifying as Aboriginal and/or Torres Strait Islander¹. This makes the Shire one of the smallest in terms of population in NSW.

The small population of the Shire is geographically dispersed between the remote towns of Wilcannia, Menindee, Ivanhoe, and White Cliffs, with the remainder of the population in the hamlets of Sunset Strip and Tilpa, as well as pastoral properties.

Unemployment and the median weekly income for the Central Darling Shire region are also significant issues which impact on the access of residents to suitable telecommunications. According to the 2016 census the unemployment rate in the region was 11.2% compared to 6.3% for NSW, and the median weekly income for households was \$901 compared to \$1,486 for NSW².

The 2016 census identified that 37.9% of persons employed worked in agriculture, forestry, and fishing, with the next three biggest employing sectors Education and Training (13.5%), Public Administration and Safety (12.1%) and Accommodation and Food Services (6.4%).

Current state of Telecommunications connectivity in the Shire region

The main towns of Wilcannia, Menindee, Ivanhoe and White Cliffs are heavily reliant on fixed voice (landline) service and the accompanying access to the internet via ADSL.

Mobile coverage in the Central Darling Shire is still patchy and sporadic in terms of reliable, robust connectivity. Currently the four main towns and the hamlets of the Sunset Strip and Tilpa are covered by the existing 3G and 4G networks. Outside of these areas, including on main roads connecting towns and hamlets in the Shire, the mobile network has limited to zero coverage³. This is of particular concern to people traversing the Shire for any reason, whether on main roads through the Shire such as the Barrier Highway or using key Shire roads between the above-mentioned four main towns.

Coverage is also limited, even within the main towns of the Shire. For example the Telstra coverage map found at www.telstra.com.au/coverage-networks/our-coverage states that in Menindee indoor 4G coverage is limited and 'you may need an external antenna'.

According to the Telstra Payphone Register and Locator Tool⁴, there are seven public payphones in the Shire - two in Wilcannia, and a single payphone in each of Menindee, Ivanhoe, White Cliffs, Tilpa and the Emdale Roadhouse. There is no public payphone at the Sunset Strip. Therefore, residents of the Shire rely heavily on mobile coverage and/or fixed landlines.

¹ <https://dbr.abs.gov.au/region.html?lyr=lga&rgn=11700>

² https://quickstats.censusdata.abs.gov.au/census_services/getproduct/census/2016/quickstat/lga11700

³ <https://www.telstra.com.au/coverage-networks/our-coverage>

⁴ <https://ppol.pbspectrum.com.au/connect/analyst/mobile/#/main?>

As a result of the poor and sporadic mobile reception in the broader Shire region, Central Darling Shire Council (CDSC) staff, government agencies, other businesses (such as the pastoral industry) and individuals who operate extensively outside of mobile coverage rely heavily on more costly options such as UHF radio and/or satellite phones.

The adverse cost factor for such options, presents CDSC with major difficulties to provide UHF radio or satellite phones to the entirety of its staff.

Telstra is the only mobile phone service provider operating in the Shire. The mobile access of other providers is restricted to emergency calls only. This often catches visitors to the region and tourists unaware, causing further frustration.

In the Shire region broadband internet services are provided through the nbn™ Sky Muster™ satellite service.

The 2016 Census revealed the following details regarding how residents accessed the internet⁵:

Access to internet at home - occupied private dwellings - Census

| Description | 2016 |
|---|------|
| Internet accessed from dwelling (%) | 54.4 |
| Internet not accessed from dwelling (%) | 38.8 |
| Access to internet at home - inadequately described or not stated (%) | 6.6 |

Only just over half of residents were accessing the internet from home.

Although not directly a focus of this review, the coverage of Free To Air (FTA) TV transmission is also worth noting as poor FTA TV reception, coupled with poor mobile and internet connectivity, exacerbates the communications issues for the Shire.

According to the Australian Government's mySwitch⁶ website the FTA digital TV coverage is noted as follows in key locations:

- Wilcannia - Good
- Menindee - Limited
- Ivanhoe - Limited
- White Cliffs - No transmitter
- Sunset Strip - Limited
- Tilpa - No transmitter

Outside of these areas, reception is patchy or non-existent. Access to the Viewer Access Satellite Television (VAST)⁷ system is free, however there is an initial set up cost that may be prohibitive to low-income earners.

Similarly, radio coverage is also limited. The ABC is the only AM coverage available in the Shire's four towns. The FM band is limited to local FM community radio and 2WEB Bourke FM (for Wilcannia and White Cliffs). ABC FM is available in Ivanhoe and Menindee, but comes from Dubbo, not Broken Hill, even though communities in the Central Darling Shire have a natural connection with the Broken Hill region.

⁵ <https://dbr.abs.gov.au/region.html?lyr=lga&rqn=11700>

⁶ <https://myswitch.digitalready.gov.au/>

⁷ <https://www.myvast.com.au/vast>

How does the current state of connectivity impact the Shire?

The CDSC is often the first point of contact for community members when there are issues around connectivity. Rightly or wrongly, many residents of the Shire see the CDSC as responsible for the delivery of telecommunication services. While CDSC fully appreciates and understands the frustration many residents and businesses feel in regard to the current situation, it is not in a position, nor has any direct responsibility, to resolve these concerns.

CDSC has conducted a range of community consultations with residents of Wilcannia, Menindee, Ivanhoe and White Cliffs. All consultations rate telecommunications connectivity as a key concern of residents, including the need for reliable and better mobile coverage, more provider choice, better access to broadband internet, and better radio and television coverage.

CDSC has included reliable, improved telecommunications connectivity as part of its advocacy plan.

While the lack of reliable coverage in many parts of the Shire makes life difficult for residents, remote workers and businesses such as those in the pastoral industry, road work camps, and those working in National Parks, the greater concern is the capacity and capability of the network to be relied upon in the case of medical emergencies such as road or workplace accidents.

Case Study - Central Darling Shire Road Sign Network

CDSC is in the process of completing an update to key remote road signs throughout the Shire which will have the ability to have road statuses updated remotely (using the 4G network).

This provides CDSC the ability to quickly provide notices to community members regarding whether a road is closed or if there is an issue that drivers need to be aware of.

At the moment these signs can only be installed where there is coverage by the 4G network.

In the instance where the 4G network fails, the functionality of these signs fails, which could then cause delayed notice to the community on road hazards.

Additionally, CDSC would like to expand the functionality of these signs through the installation of security camera hardware to provide the ability to remotely check on signs for both confirmation of status update and road status.

However, this is unfeasible at this time due to the limited coverage of the 4G network and the speeds required to create a consistent stream of video data from the CCTV infrastructure.

As Telstra is the only mobile service provider in the region, residents and businesses are faced with a lack of choice and competition when choosing a carrier - there is only one choice available to them.

The nbn™ Sky Muster™ satellite service provides coverage across the Shire. While this provides a basic level of broadband internet coverage and access across the region, the key issues facing users of this service are speed of service, reliability and cost.

The maximum download/upload speed guaranteed by many providers is 25Mbps/5Mbps⁸.

However, it should be noted that this is dependent on network congestion, wiring and hardware, meaning that speeds rarely reach these maximums. Sky Muster™ Plus says that it commits to providing a peak wholesale speed of 25/5Mbps at least once per day⁹. Adverse or extreme weather conditions can also interfere with coverage.

The inherent cost of provider service plans, and products, is a significant impediment to access the internet through mobile networks and the nbn™ Sky Muster™ satellite service. Depending on the provider, the service is generally more expensive than standard nbn™ services accessed by the majority of the Australian population, e.g., in more populous or metro centric locations, through fibre to the node.

Specific to rural and remote located business and corporate customers, the associated monthly cost for a “reasonable” data limit is around \$200.00 per month and only provides around 300GB of metered downloads per month. This is circa double what a customer would pay in a more central township (like Wentworth, NSW) for NBN fibre services with unlimited data and estimated 40/30MBPS speeds (compared to 25/5mbps from nbn™ Sky Muster™ Plus). With cloud-based data storage volumes constantly increasing, the associated data costs can lead to unexpected expenditure increases for budgeting purposes.

The latency (the time it takes for data to reach its destination) associated with Satellite services is also an issue with businesses connecting to cloud environments and voice traffic over the internet. This would affect residential consumers with regards to streaming services and video conferencing (within schools or telehealth for instance).

While basic access is comparable in cost with standard mobile and broadband services, there is often a cap on data transfer which can either result in increased expenditures for higher data usage or slower speeds once the cap is exceeded.

Affordability is particularly relevant to this discussion given the high levels of unemployment and low levels of household income in the Central Darling region. This means that many residents simply cannot afford to access broadband services that many take for granted.

The impact on people’s lives as a result of a lack of access to affordable and reliable telecommunications is particularly significant when you consider how much of the average Australian family’s everyday activities are digitally reliant and conducted online. For example:

- Educational options for many are limited if there is no internet access. It also means that students have difficulty with homework and assignments. Keeping up with education and the technology itself is difficult for those who do not have access. As a

⁸ <https://www.finder.com.au/broadband-plans/satellite-broadband>

⁹ <https://www.nbnco.com.au/learn/network-technology/sky-muster-explained/sky-muster-plus-explained>

result, schools in the region are required to provide 'paper-based' educational materials rather than online based education.

- With limited access to health professionals in remote Australia, the opportunities for telehealth are enormous when it comes to improving the health of residents of the Shire. Opportunities for better health care continue to be missed where people cannot access telehealth as an option.
- Social interaction, especially during lockdowns due to COVID-19 and other emergency situations, is limited and adversely impacted, if there is no ability to communicate through email, social media or video conferencing. Many people are still reliant on public payphones in some areas of the Shire to keep in touch with family and friends.
- In remote areas, shopping online is often the only way of accessing goods and services that are not available locally.
- Businesses in the Shire, including CDSC, are severely hampered by the lack of ready access to reliable telecommunications. Video conferencing is a good example, with constraints on the current capacity resulting in poor quality online meetings through lag, causing frozen screens and other connection issues.
- Banking services and bill paying are also not possible if you have limited or zero access to mobile or internet services. Often the only other option is to use the one location in town (usually the local Post Office) to access these services.
- In emergency situations, emergency service providers are heavily reliant on telecommunication services and systems. Power outages, combined with a lack of generator or battery backup, mean the telecommunications towers and the exchange fails. Major outages occur in the Shire every three months on average and have significant and adverse impacts on business, schools, residents, and emergency services.
- Entertainment options are also limited. With the demise of DVDs, the vast majority of home based entertainment for so many people is now exclusively online. In places like the Central Darling Shire, many people simply do not have the option either through connectivity or affordability to access entertainment platforms like Netflix, Stan, YouTube or even the plethora of free to air television streamed online.

Case Study - Youth Access to Data in Wilcannia

As a result of affordability issues and a lack of access to mobile or internet data at home, Wilcannia has seen many young people being forced to locations where they can access free data through WiFi.

This includes congregating outside government agencies that have free public WiFi to download movies, music videos and other forms of entertainment, as well as to access social media.

This is the way in which many young people in the town can feel socially included, like so many of their peers across the country. However, the Council is concerned these activities are not just limited to daytime, but that many young people are congregating at free data 'hotspots' at times, especially at night, that are unsafe, and which exposes them to anti-social behaviour.

More needs to be done to allow young people in the Shire to access data that is affordable, reliable and in ways which keeps them safe.

Several pastoral businesses and a community progress association took the time to provide the Council with input into this submission. They have expressed the impact the current state of telecommunications has on their capacity to successfully manage their businesses and live in remote locations. The case study below collectively captures their input.

Case Study – The Pastoral Industry and Living Remotely

Key concerns for many living and working in remote localities in the Central Darling are the reliability, capacity, and cost of telecommunications. Power failures (a regular occurrence) and limited bandwidth impact day to day lives in significant ways. For example, the ability to:

- Conduct regular business services (banking, bill payments and online goods and services ordering).
- Use integrated online service platforms of both government and private business (MyGov, make covid vaccination appointments, renew vehicle registrations, order groceries online etc).
- Access/download information (water data, livestock husbandry programs, road conditions, Cloud based programs etc). One station owner, who is also an irrigator, gave the example of not being able to meet their legal obligations to provide the relevant department with live data of the water extracted from the Darling River for irrigation due to poor and unreliable connectivity.
- Access the Royal Flying Doctor Service, health, police and emergency services when medical episodes or accidents occur due to:
 - A lack of adequately placed repeater UHF base stations and mobile towers (particularly important in times of emergencies e.g., bushfires)
 - No phone service, mobile or landline when there are power outages (planned or unplanned)
- Access to primary, secondary, and tertiary education (see Case Study on the Impact of COVID-19 Restrictions on Remote Schooling below).

The provision of telecommunication services to remote regions has not kept pace with the rapid expansion of telecommunication technology over the last 20 years and there is a real and genuine concern that the adverse impact this is having on the ability of business to continue operating, expanding and adapting to include new and developing technologies.

For example, the capacity to:

- Use drones and other remote technologies to monitor bores and fences.
- Electronically tag and undertake remote monitoring of livestock.
- Use remote diagnostics for vehicles and machinery, resulting in unnecessary and expensive service calls by mechanics and increased down time of work vehicles and machinery.
- Explore virtual fencing technology.

A number of those who provided input expressed their ongoing frustrations that for many years their concerns have not been adequately listened to, nor satisfactorily addressed in a timely manner. Often, they are met with an acknowledgement that while the vast majority of the country is well serviced, there are parts of remote and regional Australia that are still not appropriately covered and then referred to existing programs and services that despite being in place for a number of years have not alleviated these issues.

A good example of some of the frustrations with the current coverage and its reliability is captured in this ABC News Article published on 24 March 2021:

www.abc.net.au/news/2021-03-24/far-west-nsw-graziers-offline-due-to-phone-tower-connectivity/100026166

Due to these aforementioned issues, there is a strong feeling in the Central Darling Shire that the community is being left behind when compared to a large proportion of the rest of Australia.

The opportunity to grow businesses and arrest the declining population numbers in the Shire is being inhibited by the overall paucity of the telecommunications situation in the Shire.

Impact of COVID-19 on telecommunication usage in the region

With the increase in COVID-19 cases in regional NSW, particularly the impact being felt at Wilcannia, many CDSC staff have needed to work from home or self-isolate waiting for test results, meaning sufficient remote access is required for these staff members to undertake their roles.

While CDSC has a robust wide area network configured currently, the effectiveness of their network is being reduced due to the lack of internet connectivity and infrastructure in place within the key townships of the Shire. This has created issues with the delivery of important tasks being hampered or delayed, which has then contributed to a negative flow on effect to the various other sections of the council (including finance, works and community services).

More broadly all residents are being impacted by the restrictions resulting from the current COVID-19 lockdown emergency.

For example, the CDSC understands that schooling in lockdown is limited to paper-based material given many students do not have access to online options. The result is that students in the Shire, who are already facing significant difficulties, are placed at an even greater disadvantage due to the impact of COVID-19 restrictions on education delivery.

Case Study – Impact of COVID-19 Restrictions on Remote Schooling

A remote property owner provided the following example of the current COVID-19 restrictions adverse impact in the Shire on access to education, particularly for those home schooling.

A Year 12 student was unable to do their HSC trials and a Year 11 student was unable to undertake their exams at home during the COVID-19 lockdown because there was no phone/internet service at all due to power outages. Both were required to travel significant distances to do their exams.

Furthermore, the family's entire monthly data plan allowance had been completely consumed by school requirements.

The CDSC can specifically point to the coverage and connection issues that are being experienced by CDSC staff and community members at testing and vaccination sites which causes a break in critical communication. Communication from medical staff being brought in from outside the shire is also affected meaning updates being provided to relevant third parties is being impeded.

The case study below demonstrates the issues facing the Shire in emergency situations.

Case Study - Wilcannia Emergency Accommodation

In September 2021 emergency accommodation was set up in Wilcannia at three separate locations to accommodate those who had to quarantine as a result of becoming infected with COVID-19.

Wilcannia's incumbent poor connectivity situation resulted in service providers scrambling to boost local telecommunications capacity to ensure that the emergency accommodation established at the town's two caravan parks and oval had adequate coverage. CDSC understands that this is only a temporary solution and once the immediate COVID-19 crisis has abated, that the telecommunications capacity of the town will revert to pre-COVID-19 levels.

In addition, Telstra had to boost the telecommunications infrastructure at the Wilcannia Hospital to provide Health services with the capacity required to cope with the current levels of demand. However, an opportunity to provide a permanent increase to the telecommunications infrastructure servicing the whole town has been missed.

Put simply, the town's existing telecommunications infrastructure remains both inadequate and insufficient to manage the current and increasing levels of demand for services.

Sadly, it has taken the full brunt of the COVID-19 pandemic to highlight in real terms the issues facing residents of the Shire that have been raised continually by the CDSC.

What should 'good' or 'normal' look like for the Shire region?

In terms of mobile coverage, the CDSC strongly believes that all mobile blackspots should be eliminated, especially along major roads across the Shire region. Increased reliability and capacity of mobile services are also desperately needed. Ideally, residents and businesses should also be provided with a choice of mobile providers to encourage competition and options for cost reduction.

Access to reliable and readily available broadband internet services also needs to improve. At a minimum CDSC, local businesses and residents should have the ability to connect to at least two basic types of internet connection with acceptable speeds and bandwidth.

In this instance that would be a combination of 4G and NBN (Fixed Wireless or FTTx in townships). This provides a level of redundancy for all community members and commercial customers which has become standard for better connected townships and shires (where NBN is the primary connection and 4G is used for redundancy at the premise or remote access while outside of the business or home).

Currently the NBN services that can be accessed by CDSC (Satellite) cannot provide a speed which is fit for either personal or business use and the 4G coverage is poor, meaning that there is currently no service that can be deemed "suitable".

More tailored and affordable mobile services and broadband access is also a major issue that must be addressed in the region.

Increased free to air television and radio coverage would also greatly benefit the region. However, the more residents that can access reliable, affordable, high-speed broadband and mobile services, the more this will compensate for a lack of access to free to air television

and radio, as these services can then be accessed through streaming services provided by broadband and the 3G and 4G mobile networks.

What is the CDSC doing in response to improve the situation?

CDSC continues to advocate for better telecommunications connectivity and is working with providers and other stakeholders to improve the current telecommunications shortfall in the Shire region. Having increased mobile and nbn™ infrastructure creates a base for which CDSC can provide a secure and easily accessible network that can be managed by both CDSC and external IT service providers.

Increased investment in communications infrastructure will also provide greater benefits to all who live in, visit, and travel through the Shire region.

Further support to the Shire and providers should include:

Increasing the numbers of repeater towers (UHF, television, radio and mobile) in strategic locations to maximise and optimise the coverage area:

Financial support for increasing repeater towers in the Shire would greatly improve connectivity in the region as follows:

- Increasing the UHF coverage and reliability in the region would be a sound solution to support those in the region relying on UHF radio to compensate for the lack of mobile coverage.
- Increase mobile coverage, reliability, capacity and eliminate blackspots, and provide businesses (especially pastoral businesses) outside the main towns in the Shire with access to better technology options.
- Provide additional free to air television and radio coverage and options for residents.

Support for social housing to connect:

The well documented difficulties with social housing options for people in the Shire is also proving a barrier to large numbers of residents gaining access to better telecommunications services. In conjunction with the CDSC's push for better social housing solutions for the region, particularly the town of Wilcannia, consideration for targeted support to low-income earners and their families in remote locations that provides better opportunities to access broadband services is essential.

As noted above, while access to nbn™ Sky Muster™ satellite service is available, the cost of ongoing access is prohibitive to many families.

Improved Mobile Coverage through the elimination of Blackspots:

Using existing mobile Blackspot programs, prioritise the elimination of mobile blackspots on key roads connecting communities such as the Barrier Highway and roads connecting the townships of Wilcannia, Menindee, Ivanhoe and White Cliffs by investing in appropriate telecommunications infrastructure that provides broad and reliable coverage.



Program to support improved public access to the broadband network:

For many low-income earners in the Shire region the low levels of internet connectivity is largely due to the additional cost involved, including purchasing of computers, and a program supporting better access to both computer hardware and internet connectivity would be welcome for regions such as the Central Darling.

For example, internet cafes run from schools, Indigenous community organisations or Shire premises would greatly boost accessibility and connectivity. Government funding would be needed for the set up and running of such a program with contributions from other organisations through the provision of space in existing premises.

The CDSC would be happy to work with Federal and NSW state agencies to develop a trial program aimed at improving connectivity for the region.

Public Access WiFi:

Increased internet connectivity would provide the ability for CDSC to scope the benefits of providing public access wireless to community members at key sites within the townships.

Following the Regional Telecommunications Review - Far West NSW Public consultation session on 30 August 2021, the CDSC reached out to Pivotal to take part in the Federal Government's Alternative Voice Services Trials Program. This has the potential to benefit some CDSC staff over the 12 month period of the trial and provide a test case for its benefits in a remote region.

CDSC has also commenced discussions with NBN Co to explore possibilities to develop and implement robust and reliable telecommunications network infrastructure under the \$300 million Regional Co-investment Fund.

While this program may prove to be useful in helping improve the Shire regions connectivity to the NBN, the requirement for a co-contribution to any approved projects will require the CDSC to find additional partners to provide the funding, given the paucity of available funds to the CDSC.

The CDSC is willing to explore all avenues available to it to help support and deliver improvements to the telecommunications networks across the Shire region and would welcome further engagement with the 2021 Regional Telecommunications Review.

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