2024 REGIONAL TELECOMMUNICATIONS REVIEW

WALGA Submission

The Western Australian Local Government Association (WALGA) is an independent, member-based, not for profit organisation representing and supporting the WA Local Government sector.

Our membership includes all 139 Local Governments in the State. WALGA uses its influence, support and expertise to deliver better outcomes for WA Local Governments and their communities.

We do this through effective advocacy to all levels of Government on behalf of our Members and by the provision of expert advice, services and support to Local Governments.

WALGA's vision is for agile and inclusive Local Governments enhancing community wellbeing and enabling economic prosperity.

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Executive Summary

Telecommunications services are of critical importance to Local Governments, enabling delivery of emergency management responsibilities, economic development objectives and community aspirations for safe, attractive, liveable places. This Review is important because the specific needs of rural, regional and remote communities are often overlooked in upgrades to national telecommunications infrastructure.

Local Governments in regional, rural and remote Western Australia report that access to telecommunications services is not equitable across Australia in relation to:

- mobile service coverage;
- choice and therefore cost of mobile service provider;
- speed, capacity and cost of internet services; and
- reliability and resilience of mobile and broadband services.

To reduce the inequity of access to telecommunications services, this submission recommends that the Australian Government:

1. Undertake an effective audit of mobile coverage as soon as possible, identifying the level of service that should be expected at each location.
2. Ensures that the extent of mobile service coverage does not diminish as a result of replacing existing 3G services with 4G and 5G.
3. Continues to co-invest with the telecommunications industry to increase mobile service coverage.
4. Refines Mobile Black Spot Program design to encourage solutions that provide effective coverage without needing multiple SIMS and mobile plans.
5. Requires telecommunications carriers to monitor and report the level of broadband and mobile service and adjust capacity to meet peak demand in areas that have significant changes in population throughout the year.
6. Identify mechanisms to encourage or require telecommunications carriers to identify the most vulnerable parts of the network to power failures and establish plans to greatly increase resilience against power failure.
7. Encourage development and deployment of cost-effective standalone power supply systems at telecommunications facilities including mobile base stations.
8. Evaluate the role of accessible satellite services to provide resilience for mobile and broadband services, particularly during emergencies.
9. Initiate the steps to achieve timely mobile roaming during times of emergency and potentially more broadly.
10. Utilise a digital inclusion framework to identify the constraints facing regional Australians' participation in the digital world and develop strategies and programs tailored to regions and communities to overcome these barriers.
11. Redefine the Universal Service Obligations in terms of services provided, cost, reliability and resilience. The technology should not be specified, to enable options including satellite to be considered, provided the levels of service are guaranteed.
12. Universal service obligations should include service standards (reliability, repair time) for mobile and broadband services in regional Australia.

Contents

1. Introduction

Western Australian Local Governments have a general power to provide for the good governance of people in their district. In addition to legislative functions, the executive functions of Local Government include provision of services and facilities. A Local Government can provide any service or facility that is necessary for the good governance of the people in its district. However, before providing a service or facility, a Local Government must satisfy itself that the service or facility integrates with State or Commonwealth services, does not inappropriately duplicate any State, Commonwealth or private service, and is managed efficiently and effectively. Consequently, Western Australian Local Governments are generally not providers of utility services Including water, power or telecommunications.

However, telecommunications services are of critical importance to Local Governments enabling delivery of their:

- emergency management responsibilities;
- economic development objectives; and
- vision to create safe, attractive, liveable places.

Consequently, Local Governments in rural, regional and remote areas are concerned about the inadequacy of telecommunications services and advocate to Federal and State Governments as well as industry for equitable access to those services needed by residents, businesses and visitors to the area.

Local Governments in regional, rural and remote Western Australia report that their access to telecommunications services is not equitable in relation to:

- mobile service coverage;
- choice and therefore cost of mobile service provider;
- speed, capacity and cost of internet services; and
- reliability and resilience of mobile and broadband services.

Despite significant investment and further planned investment in service offerings and increasing the resilience of telecommunications infrastructure to power failures, these issues are the same as those identified in the submission to the 2021 Hartsuyker Review. However, in the past three years low earth orbit satellite services have become available to retail customers and there has been significant changes to the wireless and satellite broadband service offerings. This review provides an opportunity to better identify the role these newer technologies will play in achieving cost effective, resilient, equitable access to telecommunications services that are significant to those living and working outside Australia's major urban centres. If these technologies are to play a significant role, then measures will be required to ensure that these are accessible throughout the community.

2. Mobile Service Coverage

Rural, regional and remote Local Governments acknowledge and value the significant investment by the Commonwealth Government, in partnership with telecommunications companies and the State Government, through the Mobile Black Spot Program. It is important to highlight that recent investments continue to have a positive impact, including in areas relatively close to Perth and major regional centres. However, significant parts of Western Australia currently have no mobile telephone coverage and can only access the internet and voice communications using satellite based services.

2.1. Accuracy and Relevance of Mobile Coverage Maps

Telecommunications carriers publish coverage maps for 3G, 4G and 5G networks. However, feedback from the community is that these do not provide reliable information at a local scale. The 2022 Federal election commitment to conduct a national audit of mobile coverage is urgently required to better identify mobile coverage Black Spots, providing reliable information to consumers and enabling future investments by governments and industry to be effectively targeted.

For example, Pingelly is shown to have 4G coverage, but the community reports no mobile service in many parts of the town.

It is also important that the level of service that can be expected in a covered area is defined. NBN services typically rely on 4G as a back-up, and consumers switch to mobile services when fixed line services are unavailable. It needs to be clear whether "coverage" includes adequate capacity to utilise data driven services, including websites such as Emergency WA or apps providing news or time critical data (such as Bushfire.io).

2.2. 3G Network Closure

Based on the published mobile network coverage maps as at April 2024, significant lengths of key highways in Western Australia, including the Eyre Highway, Great Northern Highway and North West Coastal Highway, as well as other areas currently have only 3G or no mobile service. Prior to closure of the remaining 3G network, urgent action is required to address deficiencies in emergency communication and network connectivity to ensure the safety and well-being of residents and travellers in these regions.

The transition from 3G to more recent generation standards has not addressed the impacts on some of the most vulnerable community members, including the elderly and those without the means to upgrade to newer phones. Despite publicity, there remains a risk that some will be unable to access emergency services when 3G is no longer available.

2.3. Mobile Black Spot Program

There remains a need for an on-going program such as the Mobile Black Spot Program, to improve mobile telephone coverage in areas where the commercial outcomes will not support this investment. This includes both peri-urban areas, as well as rural, regional and remote.

While those living and traveling through regional, rural and remote Western Australia desire a choice of service providers, the current reality is that Telstra is the only service provider across large parts of Western Australia. The mobile Black Spot Program design responds to applications from carriers. However, there is a risk that the resultant investment does not deliver integrated service coverage across the region. To illustrate, Figure 1 shows telecommunications sites in the south-east of Western Australia. With funding support, a small number of towers have been installed in remote communities that are unlikely to provide service coverage to those travelling through. Similarly, community residents will be unable to access services while enroute to regional centres such as Kalgoorlie unless they have multiple SIM cards. Solutions that provide neutral host base stations that not only can but do support multi-carrier outcomes are likely to provide a more effective level of service.

The Mobile Black Spot Program continues to seek co-funding from Local Governments. This creates clear inequity, through an expectation that remote Local Governments, which demonstrably have the least financial capacity, are expected to co-fund telecommunications infrastructure that would be funded by industry in urban areas.

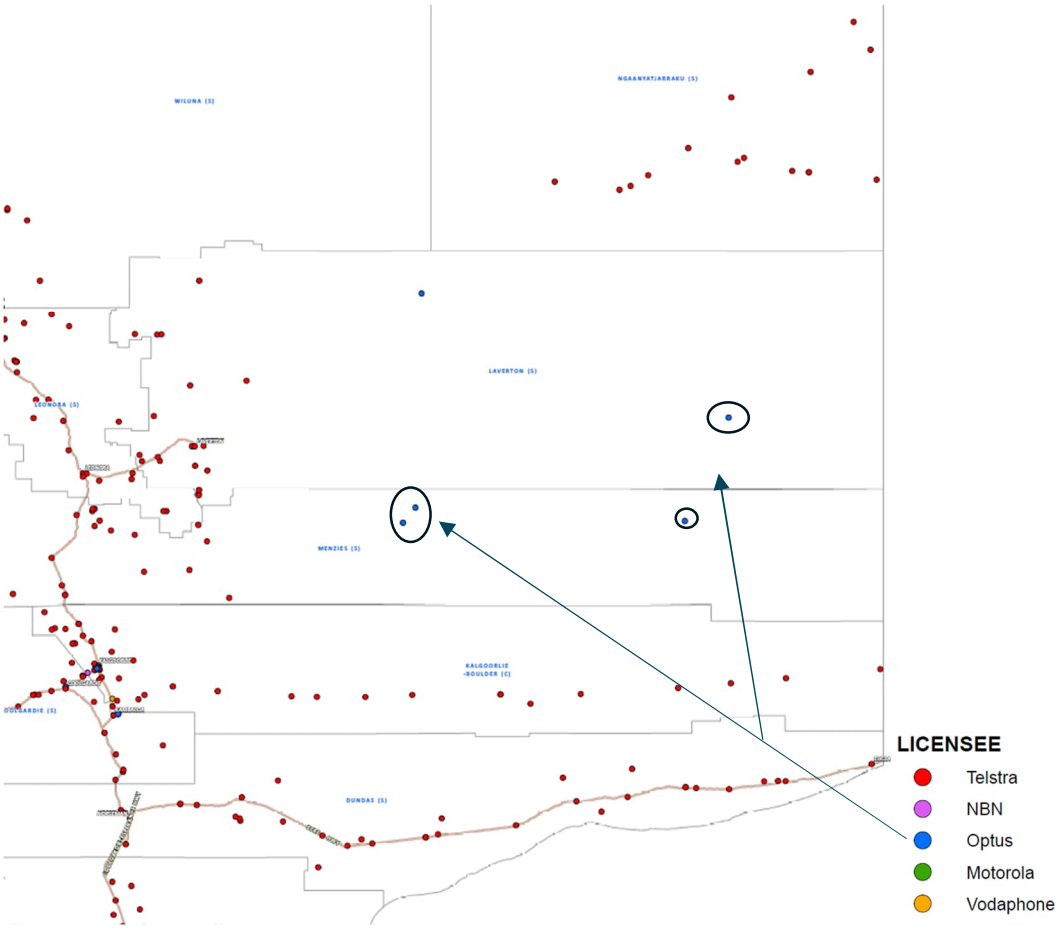

Figure 1: ACMA radio telecommunications sites in south-east Western Australia.

Recommendations

Undertake an effective audit of mobile coverage as soon as possible, identifying the level of service that should be expected at each location.

Ensure that the extent of mobile service coverage does not diminish as a result of replacing existing 3G services with 4G and 5G.

Continue to co-invest with the telecommunications industry to increase mobile service coverage.

Refine Mobile Black Spot Program design to encourage solutions that provide effective coverage without needing multiple SIMS and mobile plans.

3. Speed and Capacity

Access to reliable, high-speed telecommunications is essential for establishing and growing businesses in regional Western Australia. Even businesses in traditional industries rely on online and telecommunication services to quote, invoice, bank, order stock, advertise, undertake training, engage with customers and a host of other activities. The lived experience of many in regional and remote Western Australia is poor performance of their mobile and internet services, particularly in areas that experience large seasonal increases in population. During the peak tourist season visitor population in some popular locations, such as Exmouth, can be three (or more) times the resident population. Towns that are not tourist destinations, but service travellers also report that the telecommunications services do not have sufficient capacity during peak periods, to the extent that even eftpos machines are unable to operate on the mobile network.

Growth in mining activity has resulted in step increases in demand for data capacity on specific parts of the mobile network, resulting in insufficient capacity to meet community needs. Approvals for new mines should require an assessment of telecommunication needs, with a requirement to fund upgrades to existing infrastructure or installing new mobile towers.

Amplifying devices such as YAGI antennae are readily available and used, but in some circumstances negatively impact on the level of service available to others.

There is evidence that the level of connectivity literacy may mean that cost effective options are available, particularly for internet services, that people may not be aware of.

Recommendations

Carriers be required to monitor and report the level of broadband and mobile service and adjust capacity to meet peak demand in areas that have significant changes in population throughout the year.

4. Reliability and Resilience

The Optus outage in November 2023 made national headlines and led to a Senate Committee Inquiry. Unplanned and planned outages in telecommunications services are a daily occurrence in regional Western Australia.

As a result of changing climate, Australia has seen and is expected to continue to suffer more frequent extreme weather events and consequences including floods, bushfires and storms (cyclones). Delivery of timely and effective emergency response is now dependent on telecommunications services working during these critical times. Tuning in to am radio will not allow people to seek help, nor enable a volunteer SES crew or Bushfire Brigade to be mobilised.

Contemporary telecommunications are dependent on power supply throughout the network, including at the premises, nodes or mobile base stations, exchanges and other facilities. Reliability and resilience of power supplies in rural, regional and remote Western Australia is significantly worse than in urban and CBD areas. Based on data published by Western Power[1], the duration and frequency of power outages in rural areas was four to five times higher than in urban areas during 2022/23, noting that this was the best performance in the more remote rural areas in over a decade as a result of increased powerline maintenance and changes to operating procedures. It should also be highlighted that major (weather) events (two during the year) are excluded from the data. Horizon Power reports[2], on average slightly lower frequency of power outages than rural areas served by Western Power, with a total duration of outages within the range reported by Western Power for different types of rural customers.

The community, including emergency services, are very heavily dependent on mobile telecommunications. The lack of resilience in the telecommunications network was again recently highlighted in Western Australia in the aftermath of a severe storm that passed through parts of the Perth Hills, and Wheatbelt region on 16 January 2024. Given the extent of damage to the power network it took several days to restore the majority of power services and more than a week to reconnect all customers. Communities highlighted that mobile telephone services and internet access (nbn) failed in many places within hours of the power failures resulting people in a large part of the State being unable to access 000 services, volunteer fire and rescue services unable to communicate with volunteers and people unable to confirm the welfare of family and friends.

The battery back-up provided for telecommunications was demonstrated to be inadequate as was the capacity to quickly deploy and then maintain generators at many sites. Given that the track of the January 2024 storm cell was relatively small, compared with a cyclone for example, this event highlights the vulnerability of communities in rural, and remote areas to prolonged telecommunications outages. Cyclone Seroja, which struck the Mid West region of Western Australia in April 2021 had a significantly greater, and longer lasting impact on the availability of telecommunications. Cyclones are much more frequent in the Pilbara and Kimberley regions which regularly suffer telecommunications outages during these most critical periods.

Service providers including Western Power and nbn Co monitor their networks and provide information to customers about interruptions and anticipated times for repair. However, these initiatives are ineffective once the telecommunications networks fail.

Recognising that most people rely on their mobile phone to access information, the Western Australian Department of Fire and Emergency Services is investing significantly in upgrading

[1] Western Power, Service Standard Performance Report for the year ended 30 June 2023 Accessed 10 April 2024

[2] Horizon Power Network Quality and Reliability of Supply Code 2021/22 Performance Report Accessed 10 April 2024

Emergency WA[3], to provide the community with accurate timely information about emergencies in their area. This too will be ineffective, without reliable access to mobile telecommunications.

The joint Federal and State Government National Disaster Risk Reduction grants program supported an important project lead by the Department of Fire and Emergency Services with support from WALGA, telecommunications carriers and power utilities during 2022 and 2023 to create a consolidated dataset of mobile phone towers and their interdependency and link to power supply. The aim is to identify and prioritise investments to improve telecommunications availability and reliability. The technical and commercial sensitivities make implementation of this work difficult. However, we remain of the view that it is important to maximise the benefits from investments in improved resilience.

Given the very large number of telecommunications facilities that require uninterrupted power supply in order to provide a resilient network, a suite of solutions is likely required. These are considered in more detail below.

While telecommunications outages are often the result of power outages, there are concerns with the unreliability of mobile and broadband services in remote Western Australia unrelated to power. The Shire of Sandstone reports a recent six-day mobile telecommunications outage in the town that had a significant impact on businesses, including preventing supply of fuel and other goods and services. Extended loss of communication causes stress to residents, conscious that they are unable to contact medical services or other assistance should an emergency arise.

4.1. On-going Investment in new and renewed batteries

The Mobile Network Hardening Program has funded 12-hour battery back-up at 198 mobile sites in Western Australia and generators or other power system improvements at a further 44 locations. However, there are more than 1200 mobile towers in regional Western Australia, as well as other locations that must be powered for the system to operate. On-going, targeted investment in renewing and expanding the back-up power systems remains critical. It is important to ensure that the appropriate incentives and commercial systems are in place to achieve this.

4.2. Standalone Power Supply

Remotely managed, integrated, standalone power supply systems incorporating batteries, solar panels and if necessary diesel generators offer the potential to radically improve the reliability of power supplies to telecommunications facilities at all times, including during times of emergency. These remain costly, but it would appear that the relative cost is falling and opportunities to exploit economies of scale should be pursued. It is noted that in the north of the state, power supply batteries must be housed in such a way as to prevent deterioration due to extreme heat.

4.3. Satellite Based Services

Funded through the Strengthening Telecommunications Against Natural Disasters Program (STAND), satellite enabled wifi services have been installed in 370 Local Government evacuation

[3] Local Company to deliver next generation Emergency WA

centres and similar facilities across the State. These are designed to offer a communications service during emergencies when people have been evacuated.

Satellite based service offerings are developing rapidly, particularly with the introduction of low earth orbit (LEO) satellites and development of the SkyMuster service by nbn Co. While there is only one LEO service provider currently operating in Australia, a further five may provide services within the next three years. This is a critical technology opportunity that needs to be better understood in the context of securing accessible, reliable telecommunications. There are limits to the number of connections per cell, which may limit the applicability of this type of technology, especially in peri-urban areas. A possible model is consumer equipment seamlessly switching between fibre, conventional mobile and satellite systems depending on availability and in so doing, providing two levels of redundancy. This Review provides an opportunity to examine the role satellite based services will play in providing resilience and redundancy for the telecommunications systems and in providing services that are yet to be available in some locations, including peri-urban areas.

4.4. Roaming

Telstra is the dominant provider of mobile telephone services in rural, regional and remote Western Australia. For most people who live and work outside of the urban areas, Telstra is their only viable mobile service provider. However, there remains a strong desire for roaming to be enabled, at least in times of emergency and initiated quickly. This would provide an increased level of security for travellers, as well as an alternative, in some places, should the Telstra network be unavailable. We note that the Australian Competition and Consumer Commission concluded that mobile roaming during emergencies was technically feasible[4] while acknowledging there are issues that network operators and government will need to address in order to implement this capability. Given the reliance of the community and emergency services on the mobile network the government should initiate the steps needed to achieve mobile roaming.

4.5. Other solutions

The $50 million Telecommunications Disaster Resilience Innovation Program including the Power Resilience Round and Innovation Round announced by the Commonwealth Government in 2023 as part of the Better Connectivity Plan for rural and regional Australia may identify solutions that can be deployed at sufficient scale to deliver a step change in the reliability and resilience of the telecommunications systems in rural and remote Australia.

Recommendations

Identify mechanisms to encourage or require telecommunications carriers to identify the most vulnerable parts of the network to power failures and establish plans to greatly increase resilience against power failure.

Encourage development of cost-effective standalone power supply systems.

Evaluate the role of accessible satellite services to provide resilience for mobile and broadband services, particularly during emergencies.

Initiate the steps to achieve timely mobile roaming during times of emergency and potentially more broadly.

[4] Australian Competition and Consumer Commission July 2023 Regional mobile infrastructure Inquiry Accessed 10 April 2024

5. Choice and Cost

New technologies and providers are establishing a presence to provide choices for rural and regional consumers to access the Internet including fibre, wireless (with a range of suppliers), satellite and low earth orbit satellite services. However, for extensive mobile telephone coverage, outside of the urban areas Telstra provides the most extensive coverage in Western Australia.

The absence of service from Optus and other providers in regional WA is frequently a surprise to tourists and potentially leads to a negative experience.

Successful co-hosting of Optus and Telstra services on a significant number of towers in the Midlands region provides a model for how customer choice can be provided without duplicating infrastructure unnecessarily.

Wireless internet services have expanded significantly in rural areas and now provide a choice, particularly for businesses with large data needs. Opportunities to effectively expand this offering should continue to be explored.

6. Digital Inclusion

Digital inclusion generally refers to the capability of individuals or groups to enjoy the benefits of being online and use technology confidently to improve their day-to-day lives. It encompasses a range of issues including access to digital technologies which is impacted by the quality and reliability of broadband and mobile services; by affordability relative to other living expenses as well as the digital literacy skills to both choose the right equipment and services and then use the digital services available. The connectivity and affordability pillars of the Western Australian Digital Inclusion Blueprint are particularly relevant to rural, regional and remote areas. Digital inclusion offers a potentially useful framework to assess equity of telecommunications services between regional and urban areas.

There is anticipated to be a negative social impact on communities from digital exclusion, as a result of the inability of some of the most vulnerable to replace 3G devices in order to access mobile services after June 2024.

More broadly, regional Australians are much more likely to depend on telehealth services and access Government services online, as there is no in person alternative, and use commercial services including shopping and banking on line, again because the alternatives are too expensive or not available. From an equity perspective, this means that being digitally enabled is even more important for regionally based Australians. However, the data indicates that those outside of the Capital Cities have significantly lower digital ability[5]. Through library services and Community Resource Centres, Local Governments are actively involved in supporting and enabling people to improve their digital ability. These activities should be resourced and supported.

Without equal opportunities to access digital technology throughout regional Western Australia, innovation and international competitiveness of businesses and industries will likely suffer.

Recommendations

Utilise a digital inclusion framework to identify the constraints facing regional Australians participation in the digital world and develop strategies and programs tailored to regions and communities to overcome these barriers.

6.1. Essential Service Delivery

Residents and businesses in regional Western Australia are more dependent than ever before on access to the internet to access basic government and business services. The physical presence of businesses and government in regional Western Australia continues to contract. Many regions now have no physical banking presence, with all services delivered online. A wide range of goods and services are accessed using on-line purchasing platforms. Accessible, reliable and capable telecommunications underpin access to all of these services.

[5] Thomas, J., McCosker, A., Parkinson, S., Hegarty, K., Featherstone, D., Kennedy, J., Holcombe-James, I., Ormond-Parker, L., & Ganley, L. (2023). Measuring Australia's Digital Divide: Australian Digital Inclusion Index: 2023. Melbourne: ARC Centre of Excellence for Automated Decision-Making and Society, RMIT University, Swinburne University of Technology, and Telstra.

7. Universal Service Obligations

Infrastructure Australia notes that while the overall telecommunications industry is competitive and expanding rapidly, the specific needs of rural and remote users are often overlooked in upgrades to national telecommunications infrastructure[6]. There remains a clear need for universal service obligations to drive more equitable access to telecommunications services in rural and remote areas. A contemporary USO should include performance criteria for service availability and maximum times to restore services. Regional and remote towns report that multi-day failures of both mobile and broadband services are not uncommon. The impact of this on business and the wider community would not be accepted in urban Australia. If implemented well this should provide appropriate signals for carriers to invest in the maintenance required to keep services available.

The Universal Service Obligations, including specification of the technology to be provided no longer delivers equitable access to telecommunications services across Australia. Several detailed studies have examined potential changes to the Universal Service Obligations arrangements.

Recommendations

The universal service obligations should be defined in terms of services provided, cost, reliability and resilience. The technology should not be specified, to enable options including satellite to be considered, provided the levels of service are guaranteed.

Universal service obligations should include service standards (reliability, repair time) for mobile and broadband services in regional Australia.

[6] Infrastructure Australia, Australian Infrastructure Audit 2019 Accessed 12 April 2024