

July 2023



MAPPING THE DIGITAL GAP

Measuring Digital Inclusion and Media Use in Remote Aboriginal and Torres Strait Islander Communities 2021-24

WADEYE, NT

COMMUNITY OUTCOMES REPORT 2022



Acknowledgement of Country

We respectfully acknowledge the Dinnuman people of the Thamarrurr region and pay our respect to their Elders, past, present and emerging. We also acknowledge the Traditional Custodians and their Ancestors of the lands and waters across Australia where we work, live and undertake our research.

About the Mapping the Digital Gap Research Project

Mapping the Digital Gap is a 4-year research project working in partnership with local organisations in 10-12 remote First Nations communities, to generate a detailed account of digital inclusion and uses of digital services including news and media, track changes over time, and inform appropriate local strategies and services enabling informed decision making by remote Aboriginal and Torres Strait Islander people. It is being undertaken through RMIT University as part of Centre of Excellence for Automated Decision Making and Society, in partnership with Telstra.

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Mary Munar

Research Participants and Stakeholders:

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- + Thamarrurr Development Corporation
- + West Daly Regional Council
- + NT Police, Fire and Emergency Service
- + Thamarrurr Rangers
- + Wadeye Women's Safe House
- + Our Lady of Sacred Heart College
- + Murrinhpatha Nimmipa Store
- + Catholic Care NT
- + Save the Children
- + Centrelink

Research trip dates:

8- 12 August 2022

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1. EXECUTIVE SUMMARY

Wadeye is a large coastal community in the West Daly region of Northern Territory, close to the Hyland Bay and Moyle River floodplain. It is located approximately 420kms south-west of Darwin by road. Formerly known as the Port Keats mission, Wadeye became an Aboriginal community with local governance in 1978. During the wet season road access is often cut by flooding, with reliance on aircraft and coastal barges for transport and provision of supplies.

The traditional owners of the township are the Dinnuman people, however there are 19 traditional owner groups within the Thamarrurr region. Murrinh Patha is the primary language, spoken by 77.8% of Wadeye residents, with 4.4% speaking other Aboriginal languages (Australian Bureau of Statistics, 2021). According to the 2021 census, Wadeye's population is estimated as 1,924¹ with 85.8% identifying as Aboriginal and/or Torres Strait Islander and 3.3% not stated (ABS, 2021). Outside of Wadeye and Peppimenarti, there are about 30 homelands and outstations within the Thamarrurr region.

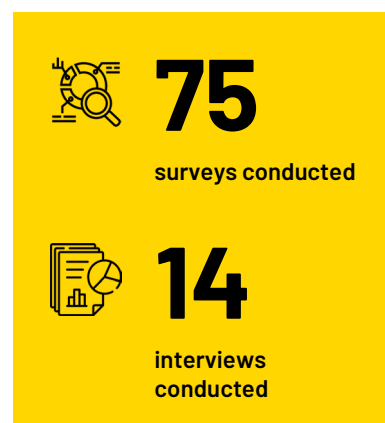
Wadeye is a well-serviced modern community with an airstrip, medical centre, police station, school, supermarket and local businesses. Thamarrurr Development Corporation provides economic development programs including housing, Community Development Program and youth, sport and recreation programs.

Our first research visit to Wadeye was undertaken from 8th to 12th August 2022. The team had a highly productive week, working with community research partner Thamarrurr Development Corporation (TDC) and co-researchers Marcus Kinthari, Veronica Munar and Mary Munar, with support from Corporate Services Manager Tracey Leo and TDC ranger Mark Crocombe. We thank the traditional owners for making us feel very welcome and all residents and agency staff who participated in the research.

Based on 75 surveys and 14 interviews with residents and stakeholders, this report outlines the findings from our initial visit and highlights the current access and use of media, communications and online services and the digital inclusion challenges in Wadeye and the surrounding homelands.

This report is provided under our commitment to Indigenous data sovereignty, providing research data and findings for planning and advocacy use by community and local agencies, including TDC, West Daly Regional Council (WDRC) and Northern Land Council. The report outlines key barriers to digital inclusion in Wadeye and proposes community-led strategies to address identified obstacles through a local digital inclusion plan. The report will be updated following research visits in 2023 and 2024.

Please note that this report provides initial analysis of raw survey data collected during fieldwork. It is likely that, following data cleaning and weighting, final results may differ from that presented here. All Mapping the Digital Gap survey results will be made available via the Australian Digital Inclusion Index website and data dashboards (from July 2023), and it is this data that should be treated as authoritative.



¹ Local agencies estimate the population to be much higher at about 2800-3000.

Summary of Findings

The following key findings are based on initial analysis of surveys with 75 residents, of which 93% identified as Aboriginal, and 14 interviews with community leaders, elders, and service providers.

There is heavy reliance on 4G mobile in Wadeye with outages having significant impact

- While service agencies and staff houses have ADSL, fibre optic or Sky Muster services, there are very few fixed phone or Internet services in residents' households, with primary reliance on mobile services.
- The 4G mobile coverage in Wadeye was relatively fast and reliable at the time of our visit, however there were reports of congestion from mid-morning to about 10pm. As many residents had moved away temporarily following the unrest, it was expected that congestion would increase once residents returned.
- Significant periods of communications outages, up to 9 days, had a major impact on food security, service delivery and social cohesion. More back-up capacity is needed to reduce this impact in future.

A dispersed population has increased demand for communications in surrounding homelands

- Following unrest in the community in 2021-22, many families relocated to surrounding homelands, outstations and bush camps. To address communications needs, NT Government installed a temporary satellite small cell tower at Fossil Head and trailers providing Wi-Fi services at Fossil Head and Kudantiga.
- Some homelands currently have mobile boosters and Activ8me Wi-Fi phones, however WDRC reported several not working. There were calls for more boosters and phone or Wi-Fi access in homelands without services.
- The planned switch-off of 3G mobile coverage in June 2024 is raising concerns that the mobile coverage available to some houses and homelands surrounding Wadeye will be reduced.

Pre-paid mobile is the primary means of phone and Internet access

- 76% of survey respondents indicated they used their own mobile phone for making phone calls, with 17% of respondents said they use someone else's mobile phone.
- 81% of respondents said they owned or shared a mobile phone. Of these, 90% use pre-paid services.
- No survey respondents had fixed home phones. 9% of respondents said they had no phone access.
- We found no working public phones in Wadeye, with only one respondent saying they used a public phone for calls. There are public phones in some surrounding suburbs and homelands. Only 9% of survey respondents described the nearest public phone as reliable.

There is limited fixed line Internet in households and lack of public Wi-Fi or computers

- The vast majority (83%) of respondents surveyed do not have any form of fixed home Internet. 3% of respondents have NBN Sky Muster services and 5% have ADSL services. 28% of respondents make use of a post-paid portable 4G modem.
- There are very few computers or laptops in residents' homes with the most common online devices used being the smartphone (94%), followed by the smart TV (20%) and desktop computer (16%).
- Computer use is primarily at a workplace (Wadeye Men's Shed, TDC office, Remote School Attendance Strategy office) or the Centrelink office or library. There are few other community access computers for learning with Catholic Care planning to set up an Internet café and Wi-Fi in 2023.

- There is public Wi-Fi at the library facility at the West Daly Regional Council office, however it has limited speed and daily data limits. TDC had discussed with NBN possibly setting up two free Wi-Fi hotspots under its Communities in Isolation program, but there were no fixed plans.

Most households do not have free-to-air TV services working

- The only means of free-to-air TV access in Wadeye is via Viewer Access Satellite Television (VAST) direct-to-home (DTH) satellite services², however there is no VAST equipment maintenance program.
- 66% of survey respondents said that the VAST TV service was not working or set up at their house. Local agencies estimate that this figure is likely higher, possibly up to 90% of Wadeye households.
- The main reasons given for VAST TV services not working were set-top boxes not working and satellite dish or cabling damaged or deteriorated. A replacement set-top box costs about \$500 locally.
- With limited access to free-to-air TV services, residents are paying pre-paid data rates to access news, information, and entertainment online. Beyond affordability implications, this can impact on access to reliable sources of news and information and contribute to congestion on the 4G network.

There is a high level of Internet use in Wadeye, but relatively low levels of digital ability

- 80% of survey respondents reported having used the Internet in the past week, with a further 5% having used it in the previous month. 15% rarely or never use the Internet (12% never use the Internet).
- Of the 85% of respondents had used the Internet within the last month:
 - 23% said they used the Internet almost constantly and another 38% several times a day.
 - 94% use a smartphone for Internet access. By comparison, 16% reported using a desktop computer for Internet access.
 - 67% had used online banking or apps in the previous six months, 52% had accessed a government service online, and 41% had used the Internet for learning or study.
 - 57% had used the Internet to keep in touch with family or friends in the previous six months, and 67% had used entertainment services (e.g., streaming video/music, online games).
 - 47% responded that the statement 'I know how to send and receive emails' is 'very true' or 'mostly true'; 56% chose 'very true' or 'mostly true' to the statement 'I know how to open a new Internet browser tab', and 45% to 'I know how to complete online forms'.
- The main reasons given by the 15% of low or non-Internet users for not using the Internet was lack of convenient access (64%) and lack of confidence in using the internet (45%).

Affordability constrains Internet access and use of digital services

- Affordability issues were the primary theme raised in survey comments. See Appendix 1 for all survey comments.
- The primary reason given by almost half regular Internet users (45%) for not using the internet more often was that "The Internet is too expensive for me".

² The VAST satellite platform provides access to the 16 Freeview channels as well as a range of other radio and TV services, including ICTV and First Nations radio services.

MAPPING THE DIGITAL GAP

- 24% reported they often or always sacrificed essential household costs, such as food and bills, to afford Internet access within the past six months, with another 43% saying they sometimes sacrificed on other items. 44% compromising on connection speed or quality to prioritise affordability.
- There is an average 4.7 mobile phones per household. The average household cost for mobile phone services is \$214/month, with 43% of households paying over \$200/month.

The full survey results are available in Appendix 1. A detailed audit of community demographics, relevant information, and communications and media services available in Wadeye at the time of this research is provided in Appendix 2.



Figure 1: Photo of research team - left to right: co-researcher Marcus Kinthari, Daniel Featherstone, Lyndon Ormond-Parker, and co-researcher Veronica Munar



Figure 2: Marcus doing a survey with TDC staff member Alfred Thardim



What is Digital Inclusion? How is it measured?

Digital inclusion refers to equitable and reliable access to and use of information and communication technologies for participation in social and economic life.

The Australian Digital Inclusion Index (ADII, Thomas et al., 2021) is an annual national survey that measures three dimensions of digital inclusion: Access, Affordability and Digital Ability. ADII scores range from 0 to 100. The higher the score, the greater the level of digital inclusion. ADII scores are relative: they allow comparisons across different social groups and geographic areas, and over time.

People living in Australia's 1100 remote Indigenous communities are likely to be among the most digitally excluded Australians. The ADII has previously found that people in remote communities often have extremely limited access to digital infrastructure and services and encounter very high costs for Internet access, especially in relation to their income (Thomas et al., 2018; Thomas et al., 2019).

The Mapping the Digital Gap project uses an amended version of the survey that underpins the ADII (the Australian Internet Usage Survey) to collect digital inclusion data. The Mapping the Digital Gap survey results will be available on the ADII website, with interactive charts that will provide insight into community-specific results as well comparison with other participating communities and national results collected by the ADII.

In 2021, access to information and services enabling participation in informed decision making regarding their own lives was introduced as a new Closing the Gap outcome (17). This new target 17 includes a goal of equal levels of digital inclusion for Aboriginal and Torres Strait Islander people by 2026.

The Mapping the Digital Gap project is targeted at remote First Nations communities and does not include digital inclusion of First Nations people living in urban and large regional centres. However, it is hoped this project will provide data that will help in measuring the scale and nature of this digital gap over time, as well as insights into strategies to address key obstacles and reduce the digital gap for all First Nations people.

DIGITAL INCLUSION



2. INTRODUCTION

Wadeye has a range of communications services but congestion and reliability can be issues

Wadeye has a Telstra fibre optic cable to the community, providing 3G and 4G mobile services, fixed line telephony and ADSL2+, with fibre optic connections to the multi-function police facility, clinic and school. While the mobile speed and coverage were relatively good at the time of our visit, congestion is likely to increase when the dispersed population returns. With no public phones within and limited fixed household services in Aboriginal households, there is a lack of alternate means of access for households outside 3G/4G coverage.

Beyond 4G mobile, the Internet options in Wadeye are ADSL2+ and NBN Sky Muster satellite, all of which are only available as post-paid billed services, with low uptake by Aboriginal households. NBN Sky Muster satellite services are being used by several staff households, with some service providers installing Sky Muster recently as a redundancy service in case of fixed line outages. Use of alternate technologies (e.g., UHF or VHF radio, satellite phones) is primarily limited to emergency, boating and land management service providers. Section 3 provides a summary of media and communications services, with a full audit in Appendix 2.

Outages have had significant impact in Wadeye

Wadeye has experienced several network outages in recent years, including a double outage lasting 9-10 days during the peak of summer in February 2022. While network outages are impactful no matter wherever they occur, they have a particularly acute effect in remote communities, where the lack of alternate infrastructure can prevent use of mobile and fixed line communications, online and cloud-based services, EFTPOS and ATM. With most residents entirely dependent on 4G mobile for phone and Internet access, and a lack of alternate phone or Wi-Fi access in Wadeye, the community was largely cut off from communications and online services. The lack of ATM and EFTPOS meant that BasicCard and other cards could not be used to purchase food, fuel, power cards and other essentials. This led to issues in service delivery and significant community unrest, with the local store and agencies donating food to reduce food security issues. The case study in section 5 outlines the impacts of outages for residents and agencies.

Most residents use pre-paid mobile services for phone and Internet access

Most Aboriginal residents in Wadeye use pre-paid mobile predominantly for phone and Internet access, with very low fixed line Internet or phone access in households. There is a high level of reliance on the 4G network for all communications and access to online services. Most residents are mobile-only users, with 81% of survey respondents owning or sharing a mobile phone, and 90% of these being pre-paid. Of the 85% of respondents who used the internet in the last month, 94% used the smartphone as their primary means of Internet access. Each household has an average 4.7 mobile phones.

There are very few home phone or Internet services

No survey respondents had a fixed line phone in their home. 13% reported using a phone at a community office or workplace, and 9% are without any phone access. We saw no working public phones throughout Wadeye, with only 9% respondents reporting the public phone was reliable (possibly referring to homelands phones) and 56% of respondents do not use the public phone.

Most residents surveyed do not have any form of fixed home Internet. 4% reported having an ADSL service, and only 3% of survey respondents had Sky Muster services, despite limited 4G coverage in some suburbs. Most agency staff reported having either Sky Muster or ADSL services or both at work, with Sky Muster more common for home connectivity. The only current consumer Low Earth Orbit Satellite service provider in Northern Australia is Starlink, becoming available in northern Australia from November 2022, with some agencies reporting uptake since our visit.

Monsoonal conditions impact on road access and communications services

Wadeye is affected by monsoonal weather conditions for up to 5 months each year (typically December to April). Heavy cloud or rain can result in 'rain fade' that can reduce access to NBN Sky Muster as well as TV and radio services. Research participants using Sky Muster services reported mixed experiences, with some users describing regular dropouts and reliability issues, as well as the need for higher data limits. While considerably slower than Sky Muster, the ADSL service was described as relatively reliable, even when mobile services are congested. However, wet season flooding, high incidence of lightning strikes and mains power outages have led to mobile and network outages in recent years.



Figure 3: Map showing road access to Wadeye. Source: Wikipedia. © Summerdrought - Own work, CC BY-SA 4.0, <https://commons.wikimedia.org/w/index.php?curid=47194622>

Most of the surrounding homelands have limited or temporary communications access

Beyond Wadeye, the surrounding homelands have limited communications services, with efforts underway to address this due to a large population shift to homelands during the unrest. Outside of Wadeye there was limited mobile coverage at Kuy, Namarluk and Merrepen outstations via mobile phone boosters, and Fossil Head where a temporary small cell service was installed (since removed). Temporary mobile trailers, providing satellite delivered Wi-Fi, were installed in two of the more populated homelands of Fossil Head and Kudantiga by communications company Speedcast³, however power supply issues impacted reliability. Several surrounding homelands have mobile boosters or Activ8me public phones (some with Wi-Fi access), although some were not working at the time. Some homelands have no communications infrastructure at all, with concerns raised about safety and service access in these sites.

Lack of VAST TV services impacts on 4G congestion, costs, news and information access

As in much of remote Australia, television services are only available in Wadeye via VAST direct-to-home satellite. However, our survey found that VAST TV services were not working in 65% of respondents' homes, with reports of TV services not working for many years. While 50% did not know the cause, 35% said this was due to the set-top box not working, and 25% due to satellite dish or cabling damage.⁴



Figure 4: VAST dishes on accommodation units.

The lack of free to air services means that access to news and entertainment is increasingly a user-pays model via online services. Demand for online entertainment increased significantly during COVID-19 restrictions, especially by young people, with little sign of usage levels abating. With video streaming using about 1 GB of data per hour, a \$30 pre-paid voucher allows about 10 hours of viewing. As a result, household spending on vouchers for multiple devices has increased significantly. The increased demand

³ Speedcast: <https://www.speedcast.com/>

⁴ This was a 'select all' question in the survey, so both issues may be present for some households.

has also increased congestion on the mobile network. Further, without reliable media services, residents are more likely to access news and information via social media and encounter misinformation.

Digital transformation to online service delivery has made Internet access an essential service

Government, banking, retail, and other key services are increasingly moving to online delivery, making reliable Internet access and digital literacy essential. However, both require attention in Wadeye with low levels of engagement with online services compared with other remote communities. Of the 85% of regular Internet users surveyed⁵, 67% had used online banking in the last six months, 52% had accessed online government services, and 41% having undertaken some form of online learning or study.

Wadeye has most services available for walk-in access (e.g., Centrelink, post office/ bank agency), although homelands residents are primarily reliant on travelling to town to access services. There is limited public Wi-Fi available at the WDRC run library and Centrelink for government services. However, the transition to online delivery means access to online services is increasingly at the users' expense. This presents an affordability barrier for low income and vulnerable people, as well as access issues where mobile coverage is patchy or slow. With limited digital support available currently, service providers spend considerable time supporting residents with mobile phone issues and use of services.

COVID-19 restrictions increased videoconferencing use and online service delivery

COVID-19 travel restrictions in NT significantly impacted Wadeye residents and agencies, with travel in and out of the community restricted from mid-2020 to early 2022. With school closures in early 2022, online learning was challenged by limited home Internet access connections and devices. Likewise, many adults were unable to work from home. For local agencies, there was an increase in videoconferencing for meetings, professional development, inter-agency communications and telehealth. Use of Teams and Zoom have largely continued despite travel restrictions lifting. Increased demand for data consumption during and following lockdown restrictions exacerbated congestion on the 4G network, however the dispersed population following the unrest has reduced congestion temporarily.

There is demand for computer access and support to improve digital ability and cyber-safety

While 85% of survey respondents had used the Internet within the last month, we found lower levels of digital ability common among people who were elderly, had limited spoken or written English literacy, or did not have any mobile or Internet access. While there are some community access computers and public Wi-Fi services available in Wadeye (see section 3), research participants identified the need for digital mentors and culturally appropriate training to support elders and others with limited digital literacy.

There was also demand for awareness-raising around cyber-safety issues and scams, particularly for young people. Research participants reported significant concerns about the impact of negative social media use, including online abuse, and associated conflict and mental health issues⁶. Concerns were raised by interviewees about access to inappropriate content and a lack of supervision in the digital space. Social media was cited as playing a role in recent unrest and being used to quickly gather people together when disputes arose amongst community members.

Demand for archiving and media production and sharing

There has been a number of programs to support digital media production, cultural heritage and archiving in Wadeye over the last 20 years. A project is currently underway to digitise and conserve the extensive archive of the Wadeye Museum collection amassed over the last 50 years. There is demand for more

⁵ 80% had used the Internet within the last week and a further 5% in the last month.

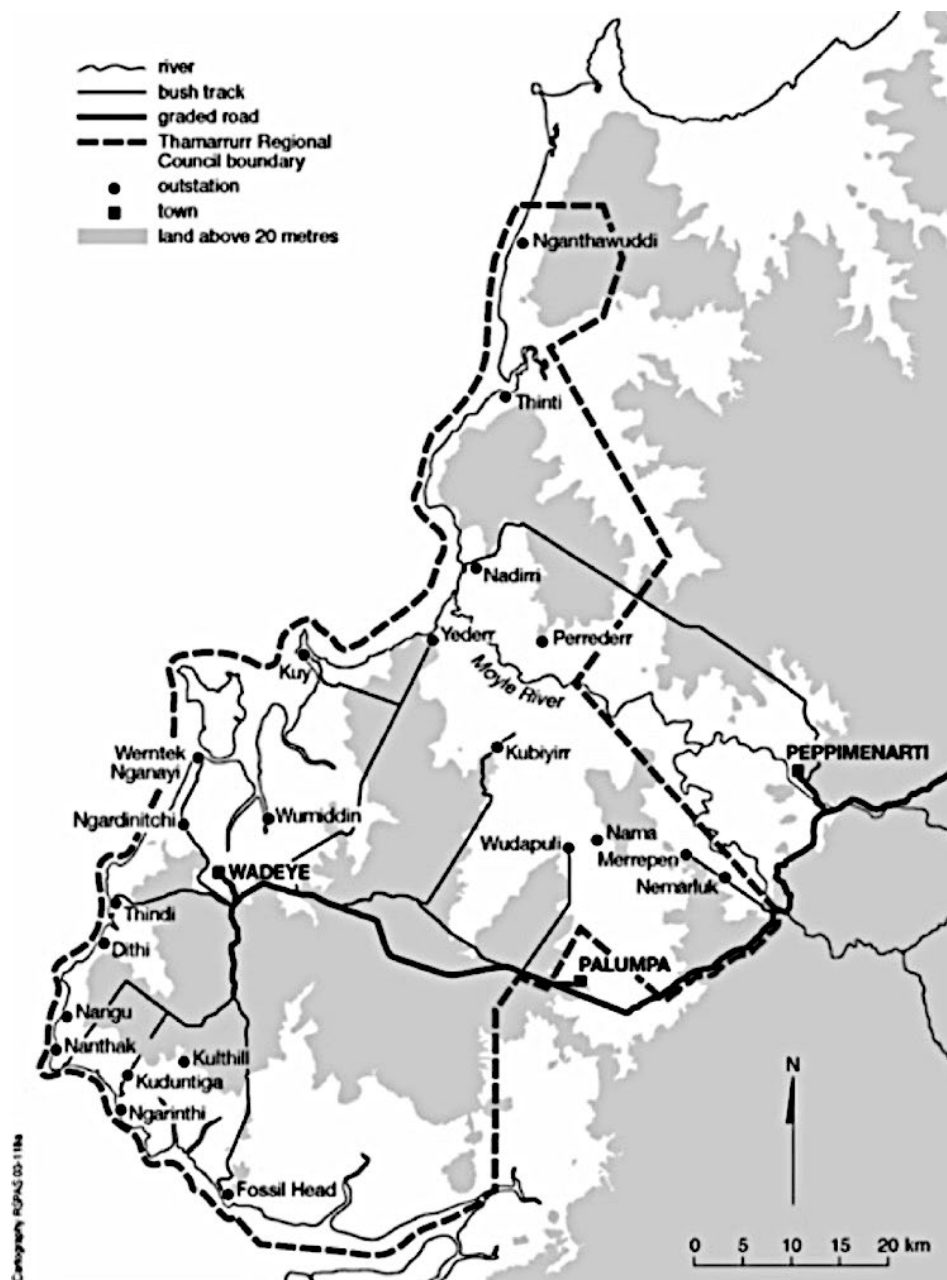
⁶ Rennie, E., T. Yunkaporta & I. Holcombe-James (2018). Cyber Safety in Remote Aboriginal Communities: Final Report. Melbourne: Digital Ethnography Research Centre, RMIT University. DOI: 10.4225/50/5afcbbe7c4833

skills development and support in music recording and digital media production and distribution. There was also demand for the return of local broadcasting and news sharing from the RIBS radio station.

A Digital Inclusion Plan can help develop local strategies to address these needs and challenges

To address the media and communications needs identified in this report, and support improved digital inclusion and service delivery in Wadeye, it is recommended that a Digital Inclusion Plan be developed. Based on the audit of existing media and communications services in section 3 (and Appendix 2), and interview analysis in section 5, a list of potential strategies for consideration for a Digital Inclusion Plan are included in section 6. As part of our ongoing research work with the Wadeye community in 2023-24, the Mapping the Digital Gap team can assist with developing this plan.

Figure 5: Map showing Wadeye, Peppimenarti, Palumpa and surrounding homelands and outstations.



3. MEDIA & COMMUNICATIONS IN WADEYE

Existing Telecommunications Services

Backhaul to community: The Telstra 4G mobile, ADSL2+ and fixed line phone services are delivered via fibre optic backhaul from Darwin.

Mobile coverage: The Telstra 4G/3G mobile base station is located behind in the centre of Wadeye, with coverage to most households in the central suburbs. There is a mobile booster in the western sub-division of Manthathpe.

Landlines: The copper network in Wadeye, enabling fixed line phone and ADSL2+ services to local households, however no local residents surveyed had landlines or ADSL connections. The primary phone service reported by survey participants is through 4G mobile.

NBN services: Under NBN zoning, Wadeye only has access to NBN Sky Muster services. Sky Muster services are post-paid only, so this mode of connectivity is predominantly accessed by staff houses and agency buildings, with very little take-up by households.

Public Phones: There were no working public phones in Wadeye at the time of our visit. This limits access to free public phones for people without mobile phones or mobile credit.

Homeland Services: Several homelands in the region have mobile boosters installed by WDRC (Kuy, Namarluk, Merrepen); Activ8me maintains Wi-Fi public phones at three homelands (Wudaduk, Mulingi, Deleye) and community payphones (wall mounted, not Wi-Fi enabled) at Fossil Head, Merrepen, Namarluk, Old Mission, Kuy, Nama, and Wudapili. WDRC reported several of these phones not working at the time. A temporary 4G small cell service was installed at Fossil Head as well as two Speedcast satellite trailers with Wi-Fi at Fossil Head and Kudantiga.

Wi-Fi: At the time of our visit, there was only public Wi-Fi available at the WDRC managed library in Wadeye and at the Centrelink office (limited hours and applications).

HF / UHF Radio: While HF radio was used extensively by Wadeye community as a primary means of communications up until the 1990s, today there is limited use of HF or UHF radio, with VHF radio use by the Thamarrurr Rangers, for boating and aviation, and for fire and emergency services; NT Police, Emergency and Fire Service (NTPFES) had both UHF and VHF towers at their precinct.

Telemetry: PowerWater is the NT government-owned corporation responsible for transmission and distribution of electricity and providing water and sewerage services across the Northern Territory. PowerWater use System Control for monitoring, operation, and control of regulated power systems⁷ using telemetry and on-site personnel.

⁷ Source: <https://www.powerwater.com.au/market-operator/system-control>



1924

Population - ABS Census 2021



85.8%

Aboriginal and/or Torres Strait Islanders (plus 3.3% not stated)



398km

South-west of Darwin



Very Remote

Classification



339

Occupied private dwellings



5.4

Average people per ATSI household (ABS 2021)

Media Services

Radio services: The TEABBA radio service (106.1FM) is broadcast from Darwin, with a transmitter located in the Wadeye Remote Indigenous Broadcasting Service (RIBS) facility at the recreation hall. The RIBS, which enables local community broadcast, previously occurred on a regular basis but was impacted by COVID-19 and the unrest, with no staffing at the time of our visit. Other radio services available in Wadeye are ABC Radio Darwin (102.1FM) and ABC National (100.5FM).

TV services: Free to air TV is only available via VAST satellite direct-to-home. Our survey found that 66% of respondents did not have VAST TV services working at home, however local agencies estimated that up to 90% of residential houses may not have VAST services working.

Regional and Local news: Regional news is shared via TEABBA radio, as well as ABC Darwin. Local news is shared via the TDC and WDRC Facebook page, as well as the Wadeye RIBS radio when it is active. Community noticeboards are also used to display local news and events, training and job opportunities, and health information.

Newspaper: The Land Rights News is published by Northern Land Council three times a year and distributed to communities. There were no other newspapers available in the community during our visit.

Access and Support Facilities

Community Access facilities: Wadeye has public access computers available at several sites: the library has one computer, TDC and RSAS office each have two computers for use for workplace skills, Centrelink have two computers for online government service use, and the Men's Shed had recently installed two computers. Catholic Care are planning an Internet café in the new group training room.

IT Support: Informal support in accessing and using online government services is available at the Centrelink office, TDC office and the WDRC-managed library, when it is operating. Other local agencies, including the Catholic Care and the women's refuge, provide some support to staff or clients, as well as private residents.

Mobile phones and recharge sales: A range of smartphones and flip phones (facilitating calls only), as well as pre-paid recharge vouchers for Telstra, are available from the Post Office and supermarket in Wadeye.



Figure 6: The TDC office has computers for client use and workplace skills development



Figure 7: The library has one access computer

4. INTERVIEW ANALYSIS

This section provides key findings from the 14 interviews undertaken with community members and stakeholders, as well as observational data and survey results.

See Appendix 1 for the full set of unprocessed survey results, based on initial analysis of 75 surveys conducted. As outlined in the Executive Summary, the finalised survey results may differ from those presented here once data cleaning and weighting has been completed. These will be available via the Australian Digital Inclusion Index website and data dashboards in July 2023.

Communications Access

Communications access in Wadeye has improved significantly over the last 40 years

The modes and quality of communications have changed significantly in Wadeye since the 1980s:

- “When I first came [to Wadeye 40 years ago] it was all HF radio [for] long distance communication ... [Then the grey radphone with] everyone in the top end of Australia watching the little telephone with the light on it, trying to be first to press the button [to make their call]. And then later on a bit of UHF. The telephone came mid 80s and the first television [in late 1980s] ... people were pretty happy to have television.”
(Mark Crocombe, Thamarrurr Rangers, 2022)

From the late 1980s, public phones became the primary means of communications access for residents, with backhaul provided via the microwave repeater network⁸. A 3G mobile service was introduced in the late 2000s using microwave backhaul. The rollout of a fibre optic cable to Wadeye in 2013 enabled the introduction of 4G and ADSL services, increasing speed and capacity for Internet access and adding capacity for more users, reducing congestion on the network. The rapid uptake of mobile communications changed the nature of communications significantly for both residents and service providers:

- “When I left in 2005, there wasn’t mobile coverage. So one of the things I noticed coming back [in 2016] was just a remarkable change in connectivity. [I had] people ringing me on my mobile phone, which was incredible. [It changed] the way the community worked, [enabling service providers to] quickly find and connect with people through their mobile devices.” (Scott McIntyre, CEO Thamarrurr Development Corporation, 2022)

Reliable communications is an essential service

Having access to reliable and effective communications services is increasingly regarded as an essential service, like water, power and housing.

- “These days, some of the basics of life and the things that people need to access include connectivity and communications and accessing digital technologies. ... In the hierarchy of needs, [communications is] pretty high.” (Scott McIntyre, CEO Thamarrurr Development Corporation, 2022)

⁸ The original microwave repeater network was the Digital Radio Concentrator System (DRCS), with a maximum speed of 9.6kbps. This was upgraded to the Higher Capacity Radio System in about 2002, increasing the speed to 19.2kbps.

The 4G network is congested during peak use periods, with patchy coverage in outlying suburbs

The 3G/4G mobile service was operating reliably in Wadeye at the time of our visit, however this was at a time when many residents were away following the unrest. However interviewees reported daily network congestion as usage increases from 10 am to 10pm, in particular after 4pm.

“Up until 10.00am ... we’re sort of getting reasonable speed [but] after that 10.00am period it just dies right off and it’s hit and miss. [I just] tried to do an EFTPOS transaction which runs off our Telstra tower [and] it wouldn’t even go through. [And I’m] only 100 metres away from the tower.” (Robert Campbell, Council Service Manager, West Daly Regional Council, 2022)

As new suburbs have been established around Wadeye, a mobile booster was installed at Manthathpe to expand coverage. However, some survey respondents described poor coverage and slow Internet speeds at their homes.

There have been several outages of the mobile service in recent years due to lightning strikes, which are prevalent in Wadeye. A redundancy plan is in place when this occurs, however this was described as having failed on some occasions, with more work being undertaken to improve resilience during wet season conditions. See case study in section 5 about the impact of outages.



Figure 8: 4G tower in Wadeye

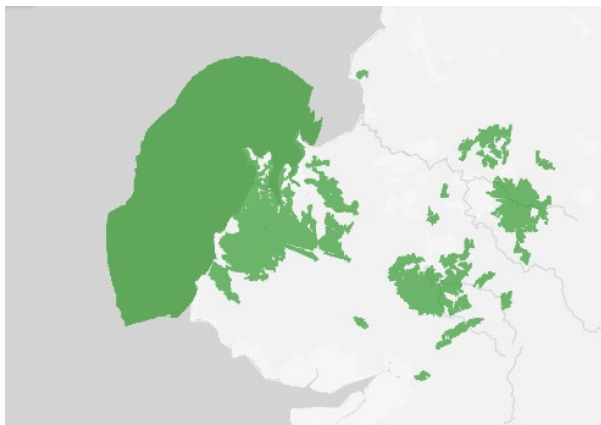


Figure 9: Telstra 4G coverage around Wadeye.
Source: www.telstra.com.au/coverage-networks/our-coverage



Figure 9: Telstra 3G coverage around Wadeye

Currently many Wadeye community members are residing in homelands or Darwin following the recent unrest. Some interviewees felt that the congestion would increase once community members return:



“You can really see the difference when our family and our countrymen [return to Wadeye] everything just dies down and becomes so much harder to use. ... Simple tasks of jumping on your phone and checking a message or sending a message, becomes so much more tedious because it’s taking so much longer to load.”

– Robert Campbell, Council Service Manager, West Daly Regional Council, 2022

Service providers described having no mobile coverage on the Daly River Road, requiring HF radio or a satellite-based system for emergency communications. These systems are too costly for most residents.

The fixed line network was described as slow and often unreliable

The police and emergency facility, clinic and school have fibre-to-the-premises connectivity over the Telstra network. While this provides a more reliable connection than ADSL2+, it was still described as having congestion and reliability issues, including during weather events. This suggests that the fibre backhaul to Wadeye is in need of upgrade.

Service providers reliant on ADSL2+ described slow speeds during peak use periods, with speeds reportedly impacted by other traffic. Congestion had eased with many people away from the community.

- “Council uses the normal ADSL within the community, which is very slow. Some emails were not getting in until 10 -15 minutes after someone sent them in town, depending on time and how many people are in the community. Recent times, due to the unrest, it’s picked up a fair bit due to the fact that there’s not too many people in town and they’ve all dispersed out to their homelands. But you can really see it when they come back. [It really] slows down [our] daily operations.” (Robert Campbell, Council Service Manager, West Daly Regional Council, 2022)
- “The internet here often drops out, so there can be challenges when you come in on a day and the internet is off half the day and you can’t access the work that you’ve been doing. So, it’s hard to follow up, without you having access to the database system that we are using.” (Service provider, name withheld, 2022)

Slow speeds and line dropouts have significant impact on the EFTPOS facilities at the store:



“Lines drop out regularly [and] awful things have happened. [If] it’s happened during the transaction but the money actually came out of that person’s account but it hasn’t cleared on the till. ... They’ve come to buy food and now they’ve lost their money [until it clears, sometimes two days later]. ... That was happening frequently especially during the COVID [when] the lines were just getting frazzled. ... Telstra needs to review [the service and] improve it here because it does affect people.”

- *Jake Clark, Murrinpatha Nimmipa Store, 2022*

Pre-paid mobile is the primary phone and Internet access, with few fixed line or public phones

76% of survey respondents said they used their own mobile phone for making phone calls, with 17% of respondents said they use someone else’s mobile phone. Of the 81% of respondents with personal or shared mobile phones, 100% used pre-paid services. There is no option for purchasing post-paid mobile services within Wadeye, with online ordering challenging and restrictive, especially due to credit checks.

We saw no working public phones throughout Wadeye, although 9% of respondents reported the public phone was reliable (possibly referring to homelands phones). No survey respondents had a fixed line phone in their home, with 13% using a phone at a community office or workplace, and 9% with no phone access. The only fixed line phone access within Wadeye is at service agencies and staff houses, including the Catholic Brothers’ residence which has regular demand from community residents to use it.

Mobile phones are also the most common device for Internet access. Of the 85% of survey respondents who had used the Internet within the last month, 94% primarily used their smartphone for Internet access.

There is a high degree of transfer of devices between family members so numbers are not necessarily associated with an individual and change regularly due to replacement of broken or transferred devices. Agency staff described having have multiple numbers in their contacts for a person and reported multiple

ways of identifying the latest mobile number, such as having to put a month next to the name of the person to identify what date that phone number was current. However, many older people choose to use non-smartphones to reduce demand from children or others for use of their device.

There is limited home Internet or NBN Sky Muster use

Most survey respondents (92%) do not have any form of fixed home Internet, with primary reliance on 4G services. Of the 8% with fixed broadband, 3% had NBN Sky Muster, and 5% had ADSL services.

The residences with fixed Internet in Wadeye are primarily agency staff or people with regular income, primarily using ADSL2+. The ADSL service was described as slow but relatively reliable, even at times when the mobile services is congested:

- “I run all my TV, all my banking, all my food ordering, everything, through Internet [via ADSL2+]. It’s a little bit problematic [if] you’re streaming a live sporting event, [but mostly it’s] pretty consistent.” (Service provider, name withheld, 2022)

Due to having 4G and ADSL services available in Wadeye, there is low residential uptake of Sky Muster satellite services except outside of 4G coverage areas. Some agencies and staff houses have installed Sky Muster services as a backup in case of outages. Some staff have also opted for Sky Muster due to difficulties in getting an ADSL2+ connection installed.

There is increased demand for communications services on homelands following the unrest

Following the unrest a large number of people relocated to homelands and outstations around Wadeye. This sudden shift in population led to demand for communications services in the homelands.

- “With the community unrest, we had about 700 people became displaced quite quickly, and I guess that’s where we’ve seen where internet services and things aren’t, where it’s been really problematic. So, we’ve still got people living [in] outcamps and homelands and up on the beach who are still not feeling comfortable coming to town. And that’s I guess where we see really big problems with not having community-wide Wi-Fi or people with smartphones or things just trying to communicate with people about really basic things.” (Tracey Leo, Corporate Services Manager, Thamarrurr D.C., 2022)

There is existing communications services in some of the homelands, including mobile boosters and limited 3G service connectivity for homelands close to Wadeye (see section 3).

- “You can still get reception at ... Old Mission and Kuy. [You can get one bar of 3G at] Redcliffe, but you’ve got to stand in that one spot and you’ll get it.” (Robert Campbell, Council Service Manager, West Daly Regional Council, 2022)

Satellite public phones were installed in several homelands across the region by Activ8me in about 2013-14, with these upgraded to enable Wi-Fi access in the late 2010s⁹. Activ8 me also maintain a number of Telstra public phones in the region, with Telstra responsible for addressing line faults. WDRC reported that several of the homeland phones were not working at the time of our visit, with some since repaired.

- “A lot of [the outstations] have phones that run off satellite ... but a lot of them aren’t actually working at the moment. There’s Redcliffe, there’s about five or six that I’m aware of that don’t actually work in that particular area.” (Robert Campbell, Council Service Manager, West Daly Regional Council, 2022)

⁹ The installation and maintenance costs for these phones is funded by the Australian Government through the National Indigenous Australia Agency (NIAA) with a contract to Australian Private Networks, branded as Activ8me.

A more regular maintenance program is needed to ensure phone and Wi-Fi services are reliable. Some homelands are still without any communications services at all, not even for emergency purposes.



“[This morning I went to a homeland with two houses about] 80km from here and they don’t have any services there at all ... It’s a bit hard for those ones that don’t have communications. Some of them actually reside out there without vehicles as well. ... My main concern would be their safety, being out there with no comms or anything like that. [What] if they get bitten by a snake or something like that ... it’s just something that [is] overlooked.”

- *Robert Campbell, Council Service Manager, West Daly Regional Council, 2022)*

The shift to homelands has increased demand for better infrastructure and communications on outstations to enable people to live there permanently. Temporary communications services were installed in the more populated homelands by NTG to address demand while more permanent solutions were being developed. A Telstra satellite small cell mobile service was installed at Fossil Head and two Speedcast trailers with satellite equipment provided to Fossil Head and Kudantiga to enable Wi-Fi and Wi-Fi calling (Source: NT Government). These temporary services have since been removed.

Interviewees noted that power supply issues impacted reliability of these communications services:

- + “There’s been a push, given the unrest, particularly at Fossil Head and Kudantiga for some [temporary] mobile set-ups. [But] they’re relying on being run off a little generator. When the generator’s not on, the comms isn’t on, and the generator relies on the fuel, [which] gets used for lots of different things. [There’s] sustainability issues with that sort of set-up. ... There are some solar [systems going] into some of the locations [but] I don’t think they’ve been done with comms in mind.” (Scott McIntyre, CEO Thamarrurr Development Corporation, 2022)



Figure 10: Temporary 4G satellite small cell mobile tower at Fossil Head

There were calls for more small-cell mobile or Wi-Fi enabled phones to be installed. According to WDRC, solar powered small cell mobile equipment costs about \$82,000, with additional installation and operational costs.

The current focus by WDRC and NTG is on upgrading homelands infrastructure for liveability (shelters, power and water supply, roads etc), with communications to follow as a next step. An audit of existing communications equipment on homelands and outstations is needed to identify where new services and upgrades or repairs are needed in the short term, with a regional communications strategy to guide longer term planning and investment.

- + “We’re trying to [support people to return to] their homelands, but I think we need to look into setting [up] a hub and spoke set up. ... [Just] putting them out there and not having any comms for them to be able to have the basic necessities or getting in contact with someone if they’re actually hurt or whatever, is a bit sad to be honest.” (Robert Campbell, Council Service Manager, West Daly Regional Council, 2022)

With road closures to many outstations during wet season, residents tend to relocate back to Wadeye.

- “A lot of the outstations here, if it’s the wet season [and] it gets too demanding, they’ll bring themselves back into a hub. So they’ll come in from the likes of those smaller outstations, Peppimenarti, Fossil Head may reign back in and come into here, so they’re 45 kms. Quite good infrastructure for the most part of the year, but if it becomes too hard to traverse some of the terrain, so while the communications is difficult, they actually have their own solution by bringing themselves away from the issue, and that’s their solution I guess. That’s the only way I can summarise it.” (Service provider, name withheld, 2022)

The limited communications access on homelands can restrict reporting of domestic violence incidents:

- “[When] people moved out to the outstations ... the government response [was] to provide a sat phone to most outstations. But when you’re giving one sat phone to an entire community how do you know who’s actually perpetrating violence and who is allowing access to that telephone? ... If you don’t have access to your own [device] and you have to go and speak to that one, often male, key leader to say so-and-so’s been harming me in this way. ... They had to agree that that was a good use of the satellite phone’s power. [So while there were seemingly] less people reporting domestic and family violence. ... In reality, people no longer had the tools because there wasn’t stable power with the generators to charge phones, there was no Internet out there.” (Laura Crossfield, Wadeye Women’s Safe House, 2022)

There is limited use of UHF and VHF radio

Thamarrurr Rangers have continued to maintained HF radio infrastructure and use HF radio while on boats and working in remote locations. However, HF is not being used as a communication system by the police and emergency services, due to not being a private network, or other local service providers. There is a tower in the Police, Fire and Emergency Services (PFES) precinct with UHF and HF antennae for emergency service use.

Thamarrurr Rangers Coordinator Mark Crocombe advised that digital HF enables private channels using encrypted signals with communications between Broome and Darwin very clear. While expensive, this may be an option for use by emergency services.

- “Digital HF now [has] two types, the encoded one or the digital enhanced. [With encoded] digital HF both ends, no one can hear what you’re saying. We did a test [run with] Jabiru Health Centre, clear as I’m talking to you.” (Mark Crocombe, Thamarrurr Rangers, 2022)

Several local agencies (including rangers, clinic, police, school) use UHF radios, this is primarily used for close proximity and line of sight communications between staff or vehicles.

Access to IT devices, Wi-Fi or shared facilities

Community access facilities help develop digital skills and supporting digital projects

Most people in Wadeye are mobile only users with very few home computers or laptops, limiting opportunities for developing keyboard skills, post-school learning or workplace readiness. Our survey found that only 16% of regular Internet users use a computer to access the Internet. Of the 15% of people who rarely or never used the Internet, 64% cited ‘no convenient access’ as their main reason.

Easy access to online computers, combined with support, can help improve digital skills for workplace needs or creative applications. There are currently several public access computers available in Wadeye. The library has two Mac computers for community access, including downloading local music to USB drives, with some basic mentor support (this was not open at the time of our visit). The Wadeye Men’s

Shed has two computers but limited support. There are two computers at the Remote School Attendance Strategy ('yellow shirts') office beside the museum. TDC also has two computers, primarily for staff use.

- "We have two desktops set up out there as well, so if they want to just come sit down and chat for a bit and get away from it all [or do] research [or] whatever they need to do. ... It's open 5 hours a day [and] the Wi-Fi [is] full-time." (Robert Campbell, Council Service Manager, West Daly Regional Council, 2022)

Catholic Care were setting up a group room for computer access and training, as well as free Wi-Fi:

- "We are going to be opening up a building here called the Group Room which will operate as an internet café most probably around three days a week, offering [free] access to computers and a printer and scanner where we will be holding and conducting information sessions, training workshops centred around internet banking, super, tax, even extending onto other interactive workshops that will incorporate alcohol and other drugs, child and parenting, and any other workshops that [people] are interested in doing. ... We're getting donated two computers [with content filtering] and a printer and scanner. ... We will be having a grand opening [in the next couple of months]." (Vanessa Iacono, Catholic Care NT, 2022)

Catholic Care plan to link with other organisations, including Thamarrurr Development Corporation, the Youth Centre and the school, to run specific workshops, including for elders.

There is limited public Wi-Fi in Wadeye

There is currently public Wi-Fi provided by NT Library at the library facility next to the West Daly Regional Council office. This is running off ADSL2+ and is relatively slow with limited daily download per device.

- "We do have Wi-Fi in the library here that the community members can come in and tap into if they need to do Centrelink stuff or transfers or [use apps] to contact family. ... It's a good tool [but] once those few people are on it, it just slows right down." (Robert Campbell, Council Service Manager, West Daly Regional Council, 2022)

There is also free 24/7 Wi-Fi available at the Centrelink office, however usage is limited to government services. However, we heard some demand for more Wi-Fi access, including within residential areas to reduce the need to walk into town. With high cost of using 4G data, free Wi-Fi services enable affordable access to online services. NBN have talked to TDC about providing two free Wi-Fi hotspots under its Communities in Isolation program, but no date has been set. It is hoped that these will be in place in time for our next visit.

Service Delivery and Use of Online Services

Communicating with clients without mobiles can be a challenge

Service providers use a range of communications technology for engaging with clients and stakeholders, including email, phone, text messages and Facebook, depending on the client's means of access.

- "[We need] digital technologies to run the business effectively [and] have meaningful and targeted outcomes from our work in terms of improving connectivity and communication and the way people use and access technology. So it's really relevant for us." (Scott McIntyre, CEO Thamarrurr Development Corporation, 2022)



Figure 11: There is full-time public Wi-Fi at the Library

The lack of phone connectivity and Internet access amongst residents impacts on service providers' ability to communicate with clients and increases workloads in providing digital support.



"We find obstacles [in] trying to set up training and find jobs and [do] basic things like getting identification and tax file numbers. ... Those simple things become big obstacles and inhibitors to people. ... Just getting in contact with people that don't have mobile phones or being able to access MyGov and get tax file numbers and bank details. [For people without Internet access or skills it] falls back on service providers to try and assist with those things [but when they're] under resourced, it becomes very difficult."

- Tracey Leo, Corporate Services Manager, Thamarrurr D.C., 2022

Cloud-based services can be problematic due to slow Internet speeds

Cloud-based and automated systems are increasingly used by service providers and software companies, improving record-keeping, data management and staff communications:

- + "[We now have] a proper digital finance system, cloud-based stuff, moving from the old servers in every building with hard filing systems [to] cloud-based using Microsoft 365, and connecting across the [many] different offices of the business. [Having] a more connected state for the organisation is enormous [with] connectivity within TDC, between staff. ... It's more Teams-based [with a] centralised location and SharePoint for file-saving, cutting down a lot of duplication and saving us money." (Scott McIntyre, CEO Thamarrurr Development Corporation, 2022)

While some agency staff found that cloud-based systems enable better records access, communication with staff and co-workers, and improved productivity, others struggle to adapt to new systems with limited access to training and support:

- + "If there's downsides to the uptake or the utilisation [of] those communication tools [it's] a technology competence issue. For some people it's just not what they do." (Scott McIntyre, as above)

Cloud-based systems can also be challenging when the Internet is slow or unreliable.

- + "[Yesterday] I logged on [to approve payments on our cloud-based financial system but] it wouldn't load up. ... That's a big issue for a business of this size [with time-critical] approvals of \$150,000, \$200,000 [for] purchases of fuel [and] housing equipment. ... A delay of 12 hours on a load of fuel order can mean a week's delay in the delivery of fuel. So that's significant." (Scott McIntyre, as above)
- + "A lot of our company systems are ... in the cloud, so Microsoft Teams and all those sorts of things. So, it's quite good in the mornings, [but] as the traffic becomes heavier later in the afternoon, it's really difficult to get onto even our own internal systems." (Tracey Leo, Corporate Services Manager, Thamarrurr D.C., 2022)

Residents' use of online services

There is relatively slow uptake in personal use of internet banking and online services such as Centrelink and MyGov in Wadeye, with many still reliant on phone support. Of the 85% of survey respondents who used Internet within the prior month, 67% had used online banking in the previous six months and 52% had accessed online government services (e.g., Centrelink, MyGov, licensing). 47% of reported being able to send and receive emails (responded 'very true' or 'mostly true') and 45% could complete online forms.

Most Wadeye residents have to deal directly with Centrelink. The Centrelink agency employs an Indigenous Language Officer to provide support for language speakers and those not familiar with using online services. However, clients are still required to navigate phone and online systems for reporting, which can be time-consuming. If clients do not complete fortnightly reporting, often due to the long hold times or running out of credit, it is considered a breach and payments can be suspended.



“Some of them, it takes an hour to get to the [Centrelink] service officer in town. Some of them wait. They just get on the mobile and just walk around with it. [If their phone credit runs out they have to start again]. If somebody doesn’t have phone credit, then they have to borrow from one of the families.”

- Damien Tunmuck, Indigenous Language Officer, 2022

MyGov is linked to a phone number and/or email address. Phone numbers change regularly requiring a lengthy process over the phone to change the MyGov details, requiring two or more forms of identification. There is little use of email, and lack of retention of email addresses and passwords adding to identification issues with MyGov, Telstra SIM card activation and other services.

- “[To activate a phone you need a] Medicare card number and licence number and all that. [Not many have a driver’s licence so] sometimes they get someone else’s licence, and they use their name. Some [can] do it on the computer to activate their mobiles. ... Only a couple [use] email.” (Damien Tunmuck, as above)



Figure 12: Centrelink agency in Wadeye

However, with so many online accounts and shared devices, retention of account numbers can be an issue. Linking codes via SMS can also be challenging with regularly changing phone numbers:

- “It’s part of [my] job to help customers [use] the computer [to] go into MyGov. [Some people find MyGov] really hard because you have to ... get the code [by SMS] and put it on the computer. There’s been a lot of people coming in asking [for the linking code to] get into MyGov. [Sometimes] they take it down to Catholic Care and they get set up from there. ... If they forget about their password, we to give it to them, another password.” (Damien Tunmuck, as above)

There is no bank outlet in Wadeye, however the post office acts as an agent for several banks. The shift to debit cards by some banks has enabled online shopping access and more affordable choices. Our survey found that 33% of regular internet users use people use online shopping.

Impact of COVID-19 and misinformation about vaccines

COVID-19 travel restrictions led to increased use of online services for telehealth, online meetings, and training during 2020-22, however most agencies reported broadband speed and reliability issues in using videoconferencing via ADSL or Sky Muster services. While we were unable to interview health agencies during our visit, we understand that limited broadband speeds have made tele-health difficult.

During the COVID-19 pandemic, misinformation spread rapidly via social media. This led to high levels of vaccine hesitancy, with concerns about potential side effects and efficacy for Aboriginal people. There

was a concerted effort by health agencies to address misinformation through all channels - word of mouth, by flyer and community notices, and through health messages in language on TEABBA radio.

TDC's Youth program made use of TikTok to spread local health messages to residents:



"Everyone's on TikTok [so] when COVID was going on I know the Thamarrurr Youth organisation did a lot of COVID stuff with TikTok and that had a really big spread through the community. They did stuff with a guy called Captain Sanitiser and that was really good, got a massive reach because everyone's on TikTok. Social media's massive, Facebook as well. But it's just that issue of people not having their phone all the time."

- Thomas Crawley, Youth Diversion Officer, Thamarrurr DC, 2022

ABC did a story about the Captain Sanitiser videos¹⁰.

Access to media and news services

Local media and information channels

Effective modes of communication are critical to ensure residents are aware of local news or activities. In Wadeye, news and information is shared through a range of channels, including:

- + Radio services – TEABBA radio, Wadeye RIBS (when operating), ABC Radio Darwin.
- + Websites and Facebook pages – TDC, West Daly Regional Council, Thamarrurr Rangers, Our Lady of Sacred Heart College etc.
- + Community noticeboards and distribution of flyers.

The use of local information sources enables delivery of reliable and trusted information, including in language, to counter misinformation spread via social media. With limited household access to television and radio in Wadeye, Facebook and other social media have become primary sources of news and information. Our survey found that, among all respondents, Facebook and other social media channels are common source of news and information (Facebook 24% daily) after direct and in person communications (53% daily).

Several organisations use Facebook to communicate their activities, as it is a primary means of communication for many residents. TDC also use their website and social media channels to promote their activities to the community and external stakeholders. The School have recently begun using Facebook to share photos of school activities with families:

- + "We're finding that there is a positive response to that increase in pictures. People love photos. They might not want to read a lot of text, but we're getting a good response to [the] school Facebook so we'll explore expanding that ... as a good communication tool." (Jacqueline Conboy, Principal, Our Lady of Sacred Heart College, 2022)

However, some interviewees referred to high levels of misinformation spread via social media and raised concerns about the limited access to reliable and trusted news sources.

¹⁰ <https://www.abc.net.au/news/2021-02-06/nt-captain-sanitiser-coronavirus-message-wadeye-tik-tok/13106068?fbclid=IwAR2GJD0sNkiC9UBo2sYyiwThAtqBH-s8CMiWEXrWbO38-6tqt8IV5ZElasQ>

First Nations radio services are primary services but there is limited access

Of the three radio services available in Wadeye - TEABBA 106.1FM, ABC Darwin 102.1FM and Radio National 100.5FM - our survey found TEABBA Radio was most popular with 12% listening daily and 21% weekly or occasionally, followed by ABC radio with 9% listening daily and 25% weekly or occasionally. However, 60% of respondents said they never listen to radio.

The TEABBA¹¹ First Nations radio network delivers radio programming and technical support to Remote Indigenous Broadcasting Services (RIBS) in 29 Top End communities. The local RIBS station provides an important language-based media service and a trusted source of locally relevant news, information, and music to the community. TDC is responsible for operation of Wadeye's RIBS radio studio, located in the sports complex, as well as employment of the RIBS broadcaster. During our visit, there was no local community



Figure 13: Wadeye RIBS radio station

broadcaster employed and the Media Centre coordinator had left the role in 2021. Listenership may have decreased as a result, with several requests for the return of local broadcasting again.



“Apart from having the normal functions of a radio station, [the RIBS] distributes really important communications in language, and we certainly saw that around the time of COVID and getting those messages out to people about hygiene [and] trying to stop people from moving around between regions. ... It's a very popular service [so] hopefully we can get it all back up and running soon.”

- Tracey Leo, Corporate Services Manager, Thamarrurr D.C., 2022

Our survey found that the most common ways of accessing radio was via car radio (32%), streaming via phone or tablet (16%) and in public spaces or workplaces (7%).

- “A few workplaces [play the radio and some] people have their ABC app but I don't think there would be any house with a radio in it that's working, listening to AM/FM radio, I don't think there's any.” (Mark Crocombe, Thamarrurr Rangers, 2022)

Shutdown of ABC shortwave radio was a loss for northern Australia and international diplomacy

The shutdown of the ABC short wave broadcast of Radio Australia on 31st January 2017¹² caused a stir in Northern Territory and among federal politicians at the time. The service enabled access to ABC radio services while at sea, when travelling or working away from communities.

- “[Previously] out in the bush, throughout remote Australia, professional fisherman in the boats all around the coastline could all listen to ABC radio. [ABC are] advertising ... “*Get the ABC anytime, anywhere*” [but] that is not true because when we go on our Ranger's work [and] cultural site work [we] get zero ABC.” (Mark Crocombe, Thamarrurr Rangers, 2022)

¹¹ Top End Aboriginal Bush Broadcasting Association. <https://www.teabba.com.au/>

¹² <https://about.abc.net.au/press-releases/shortwave-radio/>

The short-wave radio service was also available in parts of south-east Asia. The switch-off is seen as a diplomatic loss with China now broadcasting a radio service on a similar frequency to where Radio Australia used to be.

The ABC FM broadcast from Wadeye previously reached some of the homelands via a high-powered transmitter, providing access to news and emergency information.

- “ABC radio [was available via] a 250 watt amplifier ... to the outstations around the place. It actually worked pretty good but in the last number of years [the] transmitter has gone. It would be good to get that back [because the coverage is now] much weaker than what it was.” (Mark Crocombe, Thamarrurr Rangers, 2022)

With no operational funding for ABC radio services in remote communities, the cost to maintain the service must be borne by a community agency or remote media organisation such as TEABBA.

Many households are without TV services

The VAST direct-to-home satellite TV service was installed on all premises in remote communities by the Australian Government in about 2013-14, replacing local analogue broadcasting. Ongoing maintenance was deemed a householder responsibility. There has been no formal maintenance program for the VAST television services since they were installed.

- “[When] the Government decided to have this digital rollout [we] had plenty of discussions. [We told them] ‘it’s not going to work because the little black box with a smart card, that can be removed [and] the satellite dish, you are not allowed to let anybody touch it [or] kick a football around the house’. Then I said to them, ‘But there’s no tables [or] lockable cupboard to put the decoder in’. [In one house] the decoder was hanging on the cable from the wall socket [by] the coax. That was it and the installer was gone. [One elder told the installers] ‘Just put the TV back the way it was. ... That’s all we want, a TV with a bit of wire and we can watch it’. [Now] hardly anybody can watch TV anymore.” (Mark Crocombe, Thamarrurr Rangers, 2022)

Our survey found that 65% of respondents’ households did not have VAST satellite services. 27% said it was no longer working and 39% said their house had no VAST equipment. Of those that reported VAST not working, 35% said it was because the set-top box was not working, 25% said the satellite dish or cabling was damaged, and 50% didn’t know the cause (multi-choice question).

The cost of replacing a set-top box is prohibitive for many households. Activation of smart cards can also be very challenging, requiring having the set top box connected to the satellite dish, with an email address and phone number to register online. With no technical support available in Wadeye, most households no longer have VAST free-to-air television working. Households with working televisions mostly watch content from USB drives, DVDs or streamed content via a mobile device or gaming console.

The lack of VAST TV services has led to some households signing up for subscription satellite services such as Foxtel or Austar, however the high monthly bills are difficult to sustain on low unreliable incomes:

- “I’ve seen clients who have signed up for Foxtel. Foxtel is quite expensive. And they’ve been unable to eventually pay it off, and they’re now in debt collection.” (Service provider, name withheld, 2022)

There is strong demand for local TV broadcasting to be reinstated even if it is only a limited range of channels. Given the large population (nearly 2000 people), and up to 80% of Aboriginal households not having TV working, Wadeye would be a suitable location for local television broadcasting.



“[Most Australians take TV] for granted ... just turn on the TV and have those amenities [but] our local community members ... don’t have access to that. So, you can often find kids in the street running around when they should be at home with the family. ... I personally think, going back to the old days of just chucking an aerial up [is best here]. Even if it is only three or four channels, at least you’ve still got something to entertain you.”

- *Mark Crocombe, Thamarrurr Rangers, 2022*

A return to TV broadcasting would reduce demand on the mobile network and reduce household expenditure on online entertainment via mobile pre-paid services.

- * “[It’s] worth advocating to get local broadcasting of TV services back up to reduce the congestion on your mobile. [We have] over 300 houses in community [so] instead of maintaining an dish and a set-top box on every house, you’re maintaining one single site.” (Scott McIntyre, CEO Thamarrurr Development Corporation, 2022)

Affordability

Affordability of pre-paid mobile data is a significant concern

Affordability of Internet access is a key issue due to low incomes and high rates for pre-paid data. The most common comments made by survey respondents related to affordability, particularly more affordable mobile data and increased access to free Wi-Fi (see Appendix 1).

Almost all mobile use among Wadeye residents is pre-paid except for agency staff, with some staff provided with post-paid work mobiles. The increased demand for data is leading to affordability issues, especially due to pre-paid data typically costing more than three times post-paid data rates. Our survey found that 90% of people with a mobile phone use a pre-paid service, with the majority using \$30 vouchers (\$3/GB). The store reported weekly sales of approximately 390 \$30 vouchers, as well as about 60-80 \$40 vouchers, 150 \$50 vouchers and 45-50 \$20 vouchers (Source: Jake Clark, Murrinhpatha Nimmipa Store, 2022). The Post Office also sell recharge vouchers, with possibly similar turnover.

Wadeye households have an average of 4.7 mobile phone services and pay an average of \$214/month for mobile phone use, with 26% of survey respondents reporting a household expenditure of \$201-\$300/ month and another 17% over \$300/ month. The main reasons that survey respondents gave for not using the Internet more often was ‘the internet is too expensive for me’ (45% of regular users). 43% of respondents said that they sometimes have had to cut back on essential household costs to afford personal or household Internet within the past six months, with 24% often or always. 44% said they compromise on speed and/or quality of their connection to prioritise affordability.

Lack of pre-paid data and lack of public phones can limit access to critical services:



“Clients [are often] not able to ring us [or other services] if they need assistance, because they can’t afford the credit, or they have no phones.”

- *Service provider, name withheld, 2022*

In previous year, a number of Wadeye residents were sold post-paid phone bundle plans, with many accruing large debts due to inability to meet monthly payments.

- * “I found out that a lot of them were just sort of being called by Telstra ... convincing them to buy a mobile phone. So, having heard that, and once I was in Darwin, [I told

the] local member ... have you heard about this? So the lady took down all the details, and ... 12 months later, [ACCC gave Telstra] the second-biggest fine in the history of Australia for what they were doing, just ringing people up ... and not telling them what the expenses were for the mobile phones.” (William Tynan, Christian Brothers, 2022)

- “Three to four years ago, there was quite a few people that came here with debts from Telstra, they were on plans. The team leader at the time and myself managed to have all the debt waived for those people ... about nine or 10 of them. So since then, I’ve only come across people that are just on prepaid and that’s it. And they just, I guess, can only put money on when they can afford it, but at least they’re not getting debt out of a phone plan. So prepaid is definitely the way to go here.” (Vanessa Iacono, Catholic Care NT, 2022)

Since that time, Telstra have significantly changed selling practices and their post-paid products¹³. However, most Wadeye residents now opt for pre-paid mobile over post-paid plans, despite data rates being considerably higher. Our survey found that 90% of people with a mobile phone have a pre-paid service. This is also partly due to pre-paid phones being the only option available in the local stores.

Other providers have also been involved in mis-selling practices:

- “I had a client who went to Darwin and signed up for Vodafone, that doesn’t even work here, and she was paying off a phone that will not work here. But then I assisted her to get to Vodafone and explain to them, ‘you had the idea of this plan, you knew exactly where she lived, you knew the phone wouldn’t work. Why would you go ahead and sign her up for a plan that is not going to work here?’” (Service provider, name withheld, 2022)

While there are lower risks with post-paid plans now, there are often challenges in signing up:

- “If people rang up and tried to open an account with Telstra [I’m not sure] how they’d go, whether they’d get approved through credit checks and things like that. That’s probably the big blocker there. So even those people who [are] capable to manage that themselves, they’re not being given the opportunity, through the systems of the telco or the provider.” (Scott McIntyre, CEO Thamarrurr Development Corporation, 2022)

While costs of communications services is covered in Catholic Care’s financial literacy program, there is limited public information available locally on telecommunications plans or managing costs.



“[People] use a lot of the internet [data, mostly on streaming and gaming]. So maybe that’s where we can come together with Telstra and deliver some training and awareness around the expenses of that and how to [best] deal with that.”

– Vanessa Iacono, Catholic Care NT, 2022

Cost of devices is also a concern with high turnover

The cost of smart phones and devices was also raised as an issue, due to a high turnover in phone use with many people regularly using four or more phones per year. The cost of mobile phones available in

¹³ Devices are now separated from post-paid bundles, simplified plan options, month-by-month billing and no excess data usage fees.

the community store and post office ranged from \$69 up to about \$800, with the most popular brands (Samsung and Oppo) costing around \$150-\$250.

- “Things are expensive these days ... everything is, food and fuel and everything ... especially phones.” (Marcus Kinthari, co-researcher, TDC, 2022)

There has been an increase in phone turnover due to the unrest and family violence situations:



“Phones are quite expensive here. ... Because of the unrest, [people] don’t keep their phones for a long time. ... [Also] if there’s a family that is going through domestic violence, their phones are being smashed by either their partners or another family member, and then they have to buy a new one. [So] if someone is buying three to four phones throughout the year, that is a lot of money they’re spending on phones that they could spend on food.”

- Service provider, name withheld, 2022

There is demand from children for their own devices to use for entertainment, but also high turnover:

- “I think the mothers buy a phone [for the kids] out of their family tax benefit and the mother has to activate the mobiles. [And buy] phone credit [for each phone], about \$30 a week. [Sometimes when the kids run out of credit] they just smash it up. They have to get another one again, every month or so. ... That’s another \$200 for the phone.” (Damien Tunmuck, Indigenous Language Officer, 2022)

Living in a household of about 30 people, Damien described the high phone usage in his household:

- “There’s a lot of phones flying around everywhere at my house now. ... Even kids use them. They get into games and some of these kids, some are five or six, six years old, and they’re on the mobile all night watching movies, games, and all that.” (Damien Tunmuck, Indigenous Language Officer, 2022)

The high turnover of mobile phones also typically involves a replacement SIM and new number rather than retaining a previous number (new SIMs are incentivised by offering bonus data). Changing numbers can create issues for being contactable with multiple number per person, as well as for online service use with mobile numbers often required for identification purposes and two-factor authentication.

- “So even trying to ... do safety planning [or] help someone do like a bank transfer, [the bank says], ‘We’ll send this text message to this number.’ [So] you have to call the bank and be like, ‘No, this number’s gone.’ They’re like, ‘Well, how are we going to verify ID?’ No one out here has a licence [so] people here don’t even have the basic ID. ... That creates huge barriers.” (Laura Crossfield, Wadey Women’s Safe House, 2022)



Figure 14: Cost of devices is a key concern in Wadey

Digital Ability

Digital ability levels

With services increasingly moving online, digital literacy is becoming a necessary life skill, however there is limited training and support available in Wadeye. While most survey participants have good skills in using social media and entertainment apps, support is more often needed when undertaking tasks such as accessing MyGov, doing online banking or completing a form. While some basic support in use of online services is provided at the Centrelink, post office and other agencies, there was currently limited options for general digital skills training.

Our survey found lower levels of digital skills and use of online applications in Wadeye compared with other remote communities with access to mobile services. While 85% of respondents used the Internet in the last month, roughly half of these were able to send and receive emails (47% said 'very true' or 'mostly true'), find and install apps/software (56%), open a new Internet browser tab (56%) and complete online forms (45%). Respondents who were elderly, had limited spoken or written English literacy, or did not have a mobile phone or Internet access typically had lower levels of digital ability.



"[Digital literacy is] pretty low overall [in Wadeye] which is why we're going to hold classes and information sessions every week. ... Not many people have computers at home [so] if they have any internet at all, it's on a phone. ... When they [set up a] MyGov account, they create an email address. But not many of them would continue to use it [so] they can forget passwords. ... I'm hoping once [we] provide a space, and the library and [TDC and others], it's going to definitely start [reducing] that digital gap."

- Vanessa Iacono, Catholic Care NT, 2022

WDRC provide some basic digital support at the library, including online banking:

- + "[Around] paydays and Centrelink days [people come in wanting to] transfer money to families in town, at school or whatever. ... [We ask] "Okay, have you got the app set up on your phone? Would you like us to help you set it up?". Donna's really good [at] setting them up [on apps or helping with] the desktop if they don't have access on their phones [so] it's working well. [In] a day we get anywhere between five [and] 15 people." (Robert Campbell, Council Service Manager, West Daly Regional Council, 2022)

Catholic Care are also planning specific training in financial literacy, data costs, scams and cyber-safety.

- + "In the six-week [financial literacy] course that I deliver [we cover] scams, cyber safety [and elder] financial abuse as well. I know it's going to be hard to stop that in community, but if you can just raise awareness around it. [We also aim to run] elder abuse workshops at the aged care facility." (Vanessa Iacono, Catholic Care NT, 2022)

Password privacy was also raised as a key area for digital awareness:

- + "[We] explain 'You need to keep this safe and secure because if someone gets those details they can go online, log into your account, and transfer money.' [With] up to 10 to 15 people in one house ... it's really hard to hide [documents. People often] lose the number [or] get a new phone [so we need] education around safety, security." (Vanessa Iacono, Catholic Care NT, 2022)

Need for Digital Mentors to provide digital support and awareness

While there is demand for more digital training and support, the preference is for one-on-one support with a digital mentor as needed rather than doing workshops. Peer learning occurs within families, particularly by young people and those with digital skills helping others to use phones and online services.

Many service providers reported being asked to help with people's digital needs on a daily basis:



"We [help people] to activate Telstra SIM cards ... I would say four a day. [People regularly ask us for help] to 'set up my new phone.' 'I need you to create an email for me to get into Play Store.' ... 'the kids have turned on voice to text' and they can't now use their phones. ... And we're doing all of these things because ... there's nowhere for them to go [that is] dedicated to that [digital support]. ... [Most] services are having to support people in ways that doesn't really fall under their scope."

- Laura Crossfield, Wadeye Women's Safe House, 2022

A male and female digital mentor role could be established to reduce the burden of basic digital support from time-poor service provider staff. They could provide just-in-time support to people who need help with phone or SIM activation, using online services, setting up email accounts as well as promoting awareness of scams and online safety.

Workplace use of digital technologies and applications is increasing, requiring more digital skills

Digital skills are often needed for jobs in communities now, including for use of Office software, email correspondence, online meetings and training, and other job-specific applications.

- "[It's] such an important thing that people [have digital] knowledge and skills if they're trying to apply for future work. Even simple stuff like Microsoft and different media platforms ... would be really handy for people [as well as] doing tax returns and MyGov... they're the big ones that people struggle with a lot." (Thomas Crawley, Youth Diversion Officer, Thamarrurr DC, 2022)

Most jobs require basic digital skills now, but there are limited opportunities for workforce preparation:

- "[The world is] turning everything into this technological space, but local people aren't being provided the opportunities and tools to understand or utilise this skill set [needed for] managerial roles [or] case support [or] funding. [Our Aboriginal staff have] case management [skills but not] computer literacy. [We need] the Community Development Program [to provide] an element of that ... computer literacy [to] empower and allow agency to individuals." (Laura Crossfield, Wadeye Women's Safe House, 2022)



Figure 15: Access computers at the Men's Shed

TDC currently run some basic digital training but have limited resources to provide further support.

- "[We run] training programs for CDP participants [in basic computer use]. We do have some computers set up here for people to access internet if they need to [but limited] human resources to spend the time and training with people." (Tracey Leo, Corporate Services Manager, Thamarrurr DC, 2022)

The School do workplace training with their Aboriginal staff in use of emails and digital applications:

- “Using email is problematic. A lot of local people don’t check emails, or they cannot access their email. So [our] IT, work health and safety officer [is helping] to upskill people in being able to access emails and surveys and get help with Centrelink or tax. But there [is still some] dependence on someone being next to them to help.”
(Jacqueline Conboy, Principal, Our Lady of Sacred Heart College, 2022)

The bi-lingual teachers are also proficient in using digital technologies to create books, recordings, posters and other language resources (see section below re archiving of language and cultural heritage).

The Thamarrurr Rangers also use iPads for documentation, as well photography, video recording and training sessions.

Cyber safety issues and scams require a multi-agency approach for awareness and training

Interviewees raised a range of cyber-safety issues in Wadeye including scams, online bullying, access to inappropriate content, elder abuse, there is urgent community demand for cyber-safety awareness and support. Concerns were raised about the impact of bullying and online abuse on young people, who are witnessing violence in the community as well as online:

- “Yes, there’s been cyber bullying [here and incidents] where children have been bullied. And there have also been incidents of where inappropriate images of children have been shared. And also the community fights, sometimes the children record them, on those social media platforms.” (Service provider, name withheld, 2022)

The School spoke of the need to use and support family and cultural leadership to address digital issues:

- “When we’ve picked up on negativity on Facebook, we [talk] to uncles or grandfathers who advocate on our behalf to explain to the young people [about appropriate online behaviour].” (Jacqueline Conboy, Principal, Our Lady of Sacred Heart College, 2022)

With scams and online risks becoming increasingly prevalent, interviewees highlighted the need for awareness about social media use, malware, parental controls, privacy and scams. There was agreement that a multi-agency approach is needed to deliver cyber-safety awareness to different cohorts:

- “[Regarding] cyber safety [awareness] and the pitfalls of social media ... there’s no one organisation ... equipped to do that. ... We’ve got the CDP, [which engages] with a whole range of jobseekers [we could run] cyber safety programs, [and] Thamarrurr Youth, [who] engage a large cohort of young people, [but] they wouldn’t be able to do it by themselves. It would need to be a multi-agency approach [working] with others like Catholic Care [and the school]. It requires the competency [to ensure training] is culturally appropriate, it’s effective, it’s targeted.” (Scott McIntyre, CEO Thamarrurr Development Corporation, 2022)

Romance scams, often starting with ‘sweet talk’ on dating apps, are also becoming more prevalent in remote communities, with little awareness raising or support around online predators:

- “We’ve got two [adult] clients [who are] evidently being used for financial abuse through technology. So they’ve got these ‘boyfriends’ [they’ve met online] that exist in Melbourne that they’re transferring thousands of dollars to a fortnight. ... Now these women [are] embroiled in [what] they call ‘sweet talk’. ... One woman would have spent \$40,000. [So now we’ve] got older women and younger people potentially becoming victims to online predatory behaviour with no education and no support systems in place specifically addressing that. That’s really problematic.” (Laura Crossfield, Wadeye Women’s Safe House, 2022)

Social media is a primary communication tool but was also used to incite community unrest

Social media is used as a primary communications mode by many people. Of the 85% of survey respondents who had used Internet in the last month, 57% used social media for keeping in touch with family or friends and 50% for engaging with community.

Facebook is often used by service providers as a means of communicating with people who are regularly changing phone numbers.

- “I’ve set up like a Facebook group chat, which has been the best way I can do it because sometimes it’s very [difficult to] find people and getting information out is hard.” (Thomas Crawley, Youth Diversion Officer, Thamarrurr DC, 2022)

However, in our discussions, social media was regularly described as an enabler of conflict in the community, with some disputes attributed to social media posts. During the recent unrest, social media platforms were used to call people together for a fight, with fights also shared live on Facebook Live.



“I think social media is a good thing and has its place, and keeps people connected [and is] able to tell good news stories. [But] what we have seen with the community unrest is the rapid communication between particularly young people [using] social media which has been escalating some community unrest. So... Social media [is] a negative contributor. We’ve seen lots of fights [start as minor] agitation on social media. ... Given the outreach that social media has, it can spread quite quickly and people can come together quite quickly.”

– Tracey Leo, Corporate Services Manager, Thamarrurr D.C., 2022

There were accounts of fighters creating online personalities, leading to a level of hero worship.

- “Social media actually created hero worship for some of their bigger fighters. [One calls himself Transformer and] has TikToks made about him all the time ... it’s created a new subculture of hero worshipping the fighters. So [social media has] made them bigger personalities.” (Service provider, name withheld, 2022)

There has been a steady uptake of TikTok as an entertainment platform, especially by children. However, there are concerns about young people posting videos with sexualised behaviour on TikTok.

- “[Some] very young girls [are acting out] over-sexualised behaviour ... 8, 9-year-olds behaving in a way that, you know, maybe an adult woman would ... in a social setting or a nightclub.” (Service provider, name withheld, 2022)
- “[People here] are subjected [to influencers like] the Kardashians and try and mix some of those behaviours or dances [by] the likes of the Beyonce ... young girls will do that. ... But then [on social media] it morphs into the shaming, the hate [speech] and so forth.” (Service provider, name withheld, 2022)

During the unrest in early 2022, some agencies were looking into how to geo-block social media sites to limit channels like Facebook Live and Messenger being used to encourage or promote conflicts. However there was some concern that this would also block a primary means of communication used by residents.

- “[Efforts] to shut down [social media use] showed a real lack of understanding of ... what an important role social media is playing in connectedness in communities, and the role that internet is playing in allowing people some sort of equity in communication, which for this community has been transformative. [It’s not always] a huge positive but that’s the community’s right to decide how they use that tool.” (Laura Crossfield, Wadeye Women’s Safe House, 2022)

Local Digital Media Content Production, Archiving and Sharing

Demand for digital media and music production

Several people articulated an interest in reinvigorating the Wadeye media program which has not been active during the last year. TDC are seeking to recruit a replacement media coordinator to run the RIBS. This would provide an opportunity to engage young people in media production for ICTV and online platforms (e.g. IndigiTUBE, ICTV Play, YouTube, Facebook, TikTok etc) and creation locally targeted messages in language, including cyber safety messages.



Figure 16: Our Lady of Sacred Heart College

There is particular interest in music recording production in Wadeye, with musicians keen to learn to record their own music using Garageband:

- “There’s a massive, massive interest in making music, learning instruments and everyone loves discos and stuff, it’s a big thing. ... The biggest issue is the lack of knowledge on how to record music [with] only one person [with a] very basic level of garage band. ... So if we had that kind of knowledge in place we’d be able to do a lot more, have a lot more success, and that’s something we really want to work on in the coming future.” (Thomas Crawley, Youth Diversion Officer, Thamarrurr DC, 2022)

TDC Youth Diversion are also keen to use digital media production – with the need for trainers to support this media production.

- “If we could get some more training along that side of things. We’ve got the equipment, like we’ve got drones and cameras and stuff, we just don’t, I personally don’t know how to use it. The guy who was running the film media has left so there’s not really any knowledge of how to do any of that stuff. If we had some training and more focus it on indigenous people running it, which would be really good for the community I think, and then they can teach that to their peers and kind of build that knowledge across the community, which would be good.” (Thomas Crawley, Youth Diversion Officer, Thamarrurr DC, 2022)

There has been active language and cultural production and archiving, but support is needed

Wadeye has a strong history of documenting its linguistic and cultural heritage¹⁴, including at Our Lady of Sacred Heart College which has a literature production centre to support its bilingual education program.

- “We have a literature production centre, [initially started by Sister Tess Ward, that] been operating in a very general form since the 1970s [and] grown into a very successful centre. ... Teaching resources are converted to Murrinh-patha language so that they can be used in the classroom. [This enables] the Murrinh-patha teachers to teach the students [about] Bible stories [or] different homelands and their totems, and explain history and Dreaming and connections with land, water and sky. And it has become so prolific that we have to expand the capacity for storage.” (Jacqueline Conboy, Principal, Our Lady of Sacred Heart College, 2022)

¹⁴ Wadeye Aboriginal Languages Centre established in 1991 supported by the Batchelor Institute and the Victoria Daly Shire Council; See Crocombe (2009) for background; Also see Barwick et al (2004,2005,2006,2007, Barwick (2017), Fisher (2018), Gibson (2007), Gibson et al (2010), Mansfield (2013), Treloyn & Emberly (2013)

There is also an established digital media and cultural heritage collection held at the Kanamkek Yile Ngala Museum. An archive can help to transfer cultural knowledge and strengthen identity of future generations. However, the Kanamkek Yile Ngala Museum (established 1995), where the collection is stored, is an old building with structural issues. There were calls for a dedicated multi-media archive facility in Wadeye to store and enable access to the collections of photos, videos, audio recordings, community records and cultural heritage materials.



“[Previously] we had all the [local] digital content, videos, audio, photos [available on six] public access computers. People would come in and look at photos, videos and look at the internet or whatever. But now [there isn't a public access space. People keep] asking me for the audio recordings and pictures of their country. ... [A lot of these are] on a hard drive up in the Museum [but are] not organised. We've got to get that Museum [upgraded and funded to enable community access].”

- Mark Crocombe, Thamarrurr Rangers, 2022

Work has been underway for many years to digitise and archive the community collections and repatriate collections in national and Northern Territory collections. Over 2000 hours of audio-visual recording have been digitised by AIATSIS. There is currently a FileMaker Pro database of the audio-visual collections and limited community access. There are also Wadeye records held at AIATSIS and in a number of online repositories, including Batchelor Institute's Centre for Australian Languages and Linguistics (CALL) collection. Storage of personal collections is also an emerging challenge with increasing use of phones for taking photographs and video. People are wanting help to save their content on a server or online so it isn't lost when they replace their phone. Cloud-based storage can be a solution but usually requires monthly payments to maintain access.

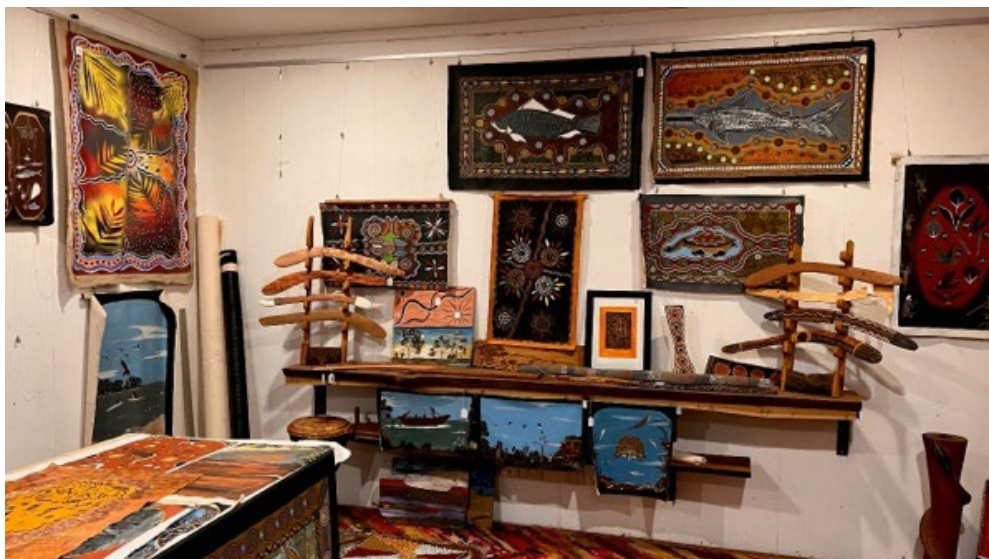
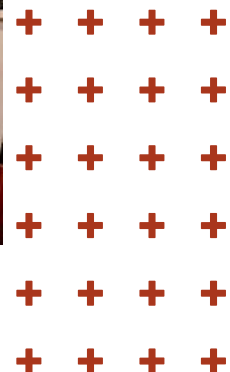


Figure 17: Men's art centre within the Wadeye Men's Shed



5. CASE STUDY: IMPACT OF OUTAGES

Wadeye is reliant on a single fibre optic cable from Darwin all for terrestrial communications delivery, with any breakage resulting in an outage of all telephony, ADSL and mobile services. Lightning strikes, equipment failure and mains power outages can also result in partial or full network outages within the community. Outages have had a significant impact on remote communities in NT in recent years, cutting access to communications, online services, EFTPOS, ATM and cloud-based systems. With very few back-up satellite systems in place, Wadeye was ill prepared for several extended outages in recent times. These include loss of voice and fixed line services in July 2021 (six days from 7-13 July and two days from 28-30 July), consecutive network and mobile outages in January 2022 (totalling 11 days from 22 January to 1st February) and another six day fixed line outage in February 2022 (10-16 February).

Mobile outage aligned with a major COVID-19 outbreak

During the peak of the summer wet season in January 2022, two back-to-back network outages occurred totalling about 11 days. The first four-day outage was caused by the loss of mains power, affecting the whole communications network, with services working briefly before a second unrelated mobile transmission fault which took about six days to repair¹⁵. The ABC reported that the delay in restoring services was due to Telstra technicians bringing an incorrect part and having to return a second time to undertake repairs¹⁶. This was followed by another six-day outage in February 2022.

These outages had a huge impact on the community due to food insecurity with EFTPOS facilities not working, and lack of access to cash due to welfare payments going into the cashless BasicCard. The outages were reported as impacting on people's ability to communicate internally or externally, or for service providers to do their work using online and cloud-based systems. Further, the outages coincided with Wadeye's first major COVID-19 outbreak, initially detected in the aged care facility:

- * “[In February] we had a seven-day outage and our first COVID outbreak simultaneously. And [we saw the clinic], the aged care and all the businesses and community struggle through that. ... On day four when the first case of COVID [was identified] in the aged care facility, it was just really difficult coordinating the change in food service delivery.”
(Tracey Leo, Corporate Services Manager, Thamarrurr D.C., 2022)

During this time, there were concerns about increased COVID-19 spread due to use of cash-only access in the store, no ability to scan the QR codes, and people leaving their homes to access services and communicate with one another.

Outages lead to community unrest

Outages have significant impacts for residents, with interviewees describing instances where people have been unable to purchase food, goods or power or their house, creating food security issues and high levels of unrest and safety concerns within the community.

¹⁵ See: <https://www.aspistrategist.org.au/remote-australians-need-the-effective-communications-big-cities-take-for-granted/>

¹⁶ See: abc.net.au/news/2022-02-14/wadeye-nt-telstra-phone-internet-outages-residents-struggling/100826880



“There was a lot of community unrest due to the fact they just couldn’t communicate. It did cause a lot of anxiety within the community, which forced a lot of issues within the community ... vandalism, property damage, the police were getting called out [a lot]. So, it does have its impacts when it’s down.”

- *Robert Campbell, Council Service Manager, West Daly Regional Council, 2022*

Food security issues

Most stakeholders raised the issue of food security during mobile outages, with people typically buying food on a daily basis with limited ability to store food.



“People weren’t able to access money from the shop [because] none of the ATMs were working, so cash around the community ran out very quickly. We saw ... a very quick escalation in people becoming frustrated and angry and hungry. ... We had to make manual vouchers and quickly set up a [system] for people to be able to get goods and services in credit.”

- *Tracey Leo, Corporate Services Manager, Thamarrurr D.C., 2022*

- “There’s only one [major] store in this community ... That’s their lifeline [because people] live on a very much day-to-day basis unfortunately. [So, with no redundancy system in place, people] couldn’t use the Basics Card nor the EFTPOS-style cards, and that was a real concern for me.” (Service provider, name withheld, 2022)

With no satellite redundancy system at the time for ATM and EFTPOS facilities, the Murrinhpatha Nimmipa Store initially set up a ‘book-up’ system to stop people from going hungry (ABC 14/2/22), before deciding to donate food parcels to the community:

- “The number one problem was food security when we had that outage ... because you’ve [got] malnutrition here [and about] 30% of the population have chronic disease. ... Centrelink [set up] a contingency plan [so] if someone had a Basic Card they’re able to book up on it. ... We allowed the contingency plan with Centrelink to go for a couple of hours in the morning. [After that then] we donated the food. ... Over the course of three or four days, I think we donated about \$30,000 [of food]. ... We’ve done pretty much the same thing each time.” (Jake Clark, Murrinhpatha Nimmipa Store, 2022)



Figure 18: Murrinhpatha Nimmipa Store in Wadeye

As the store was still able to accept cash, people reportedly bartered anything they had to get cash to use at the store. There was also reports of increased break-ins by young people looking for food or cash.

Lack of communications created health risks

The lack of communications led to some emergency health situations, including a birth at the clinic:

- “There were instances where a woman gave birth at the clinic, which here you’re supposed to be flown out because they don’t have the facilities for it, but they couldn’t locate their sat phone so there was issues around that.” (Laura Crossfield, Wadeye Women’s Safe House, 2022)



“[There was] no communication [and the family] couldn’t get onto the clinic. [So] someone just threw rocks at a police house to wake someone up, so they could then go throw rocks at a clinic member’s house to wake them up, to come and deliver a baby at the clinic.”

- *Service provider, name withheld, 2022*

The lack of mobile coverage also prevented a heart monitor from working:

- “[Another person had a heart monitor] linked into the 4G network, so her cardiologist [in] Melbourne wasn’t able to actually contact her, her monitoring had dropped off, so when monitoring drops off with a heart monitor, that would be alarm bells for a cardiologist.” (Service provider, name withheld, 2022)

Increase in domestic violence and harassment during outages

During the February 2022 outage there was increased incidence of domestic violence:



“There was a significant increase in violence across the community because ... perpetrators realised that nobody could report the violence. ... Without the ability to call [the] police or safe house or any other support system we saw afterwards a lot of women saying, ‘Oh, these people knew that we couldn’t call.’ So really opportunistic and quite violent behaviours, and a huge backlog of jobs because people weren’t being able to report it.”

- *Laura Crossfield, Wadeye Women’s Safe House, 2022*

There was also increased harassment for money within the community and DVO breaches:

- “People weren’t feeling safe even leaving their houses or walking around because everybody was being harassed for [money] because the shop was still taking physical cash. ... People who had something in their house or had access to tobacco were having to barter things. That uncertainty [about when services would return] just fuels more opportunistic behaviour. ... So there’s DVO breaches that were never actioned. [Without] access to immediate communication there’s a huge gap [in] how people have been supported.” (Laura Crossfield, as above)

Lack of back-up Internet options

During the Telstra outage in February 2022, TDC distributed satellite phones to the aged care, housing office, and other service agencies to provide a means of phone communications. However, most service providers had no Internet connectivity to undertake work reliant on online and cloud-based systems. The only Sky Muster service with Wi-Fi available in the town centre was at the RIBS radio station, run by TDC, where residents and service providers congregated daily.

- “[The] satellite connection [at the RIBS radio studio] was the only thing that maintained connectivity when it went out here for a week ... last year in the [middle of] COVID. ... It was bizarre, that the police and the clinic didn’t seem to have [any back-up Internet] at

the time. Like the doctor was coming down and plugging into our Wi-Fi to do medical reports and stuff.” (Scott McIntyre, CEO Thamarrurr Development Corporation, 2022)

As the incident occurred during wet season, satellite phones were described as unreliable during cloud cover, causing issues with conveying information to support services in Darwin.



“[We had] to rely on the satellite [phones which are] problematic when there’s weather events occurring, and the transmission or comprehension of that message [can] be very disjointed, misconstrued. [Also] hand-held satellite phones [must be used outside and] people are reluctant to stand out in the rain, lightning ... so the environment can dictate where and when you can use those.”

- *Service provider, name withheld, 2022*

Outages of this duration were considered unacceptable and more robust systems are needed to provide reduce lightning strike damage and provide satellite redundancy in the case of fibre-optic cable damage.

- + “In this day and age, I just don’t know how we can have it occur twice [without] a redundancy plan.” (Service provider, name withheld, 2022)

Several agencies have since installed satellite services as back-up in case the Telstra network goes down again, including Murrinhpatha Nimmipa Store which has ordered an NBN Business Satellite Service:

- + “[The back-up satellite system] will be effective if there’s no big rain clouds around and things like that. If [a Telstra outage] ever happened again people can still come. We’re able to get on the EFTPOS, swap it to the satellite.” (Jake Clark, Murrinhpatha Nimmipa Store, 2022)



Figure 19: Aerial view of Wadeye.

6. CONSIDERATIONS FOR LOCAL DIGITAL INCLUSION PLAN

Developing a local Digital Inclusion Plan would enable a coordinated whole-of-community approach to address some of the challenges outlined in this report. It would also provide a useful tool for advocacy to government, industry, and fundraising efforts.

Strategies proposed during community and agency consultations are outlined below to assist community stakeholders in planning efforts to improve communications services and digital inclusion in Wadeye. These are not intended to be prescriptive, nor are they listed in order of priority.

Identified Issue	Possible Actions	Potential Stakeholders
Access		
<p>Backhaul Upgrade and 4G services</p> <p>Congested and patchy 4G coverage and reliability issues in Wadeye; Fibre upgrade to Wadeye required.</p>	<p>WDRC and TDC to talk to NTG and Telstra re plans and any funding needs for fibre backhaul upgrades to Wadeye to address congestions, slow speeds and reliability issues. Set up timeframe.</p> <p>Review 4G coverage to ensure outlying suburbs have reliable mobile services.</p>	<p>Telstra, Northern Territory Government (NTG), West Daly Regional Council (WDRC), Thamarrurr Development Corporation (TDC), Northern Land Council (NLC).</p>
<p>Coordinated IT Support</p> <p>Technical and IT support for multiple agencies costly due to remoteness, and delayed in wet season</p>	<p>Review IT maintenance and support needs of all agencies based in Wadeye.</p> <p>Consider options for multi-agency maintenance contracts to reduce costs of multiple visits.</p> <p>Consider employment of locally-based technician and/or local trainees for first-in support and IT problem assessment.</p>	<p>WDRC, TDC, NTG, local government agencies and NGOs, IT support companies</p>
<p>Homelands Communications</p> <p>Increased population in several Thamarrurr homelands; Reports of homelands having limited or no connectivity; existing infrastructure not working reliably in some sites.</p>	<p>Undertake audit of communications infrastructure in Thamarrurr homelands.</p> <p>Identify additional infrastructure needs and repair / upgrade schedule.</p> <p>Consider potential role of LEO satellite backhaul for shared services in homelands.</p> <p>Review maintenance processes including remote monitoring, repair times to reduce outage periods.</p> <p>Increase awareness of communications systems and fault reporting.</p>	<p>NTG, WDRC, TDC, NLC, National Indigenous Australians Agency (NIAA), Australian Private Networks (APN/Activ8me), Telstra</p>

Identified Issue	Possible Actions	Potential Stakeholders
<p>Public Wi-Fi</p> <p>Limited public Wi-Fi coverage to enable affordable use of online services and to provide access when 4G access congested</p>	<p>TDC to follow up with NBN Co re possibly installing two free Wi-Fi hotspots under its Communities in Isolation program.</p> <p>Consider upgrading free public Wi-Fi hotspots at WDRC-run library to improve speed and coverage, possibly using satellite backhaul (e.g. NBN Sky Muster or Starlink) with curfew time option.</p> <p>Consider setting up limited free Wi-Fi in suburbs for access near residence, especially for online service use.</p> <p>Provide satellite phone or Zoleo satellite comms device to homelands residents without a public phone in short term.</p>	<p>WDRC, TDC, NBN Co, NTG, NT Library</p>
<p>Satellite Redundancy Systems</p> <p>Limited redundancy systems at key services (store, clinic, police station, Centrelink, WDRC etc) in case of future outages.</p>	<p>Encourage all key service agencies to develop a contingency plan (where not already in place) in case of Telstra network outages such as satellite service.</p> <p>Note: Murrinhpatha Nimmipa Store were installing a satellite backup system in 2022. Thamarrurr Rangers have since installed a Starlink service.</p> <p>Undertake trial of Starlink or other LEO satellite services as option to improve service quality in agencies with multiple computers and cloud-based services.</p>	<p>WDRC, NT Police, NT Health, Services Australia etc.</p>
Affordability		
<p>Affordability issues for many residents due to increased data use and high data rates using pre-paid mobile (costing \$2-4/GB); low uptake of fixed household services.</p>	<p>Advocate for more affordable pre-paid plans or a flexible approach to post-paid plans.</p> <p>Provide easy-to-read materials outlining cost options for pre-paid and post-paid mobile, ADSL2+ and satellite services (NBN Sky Muster, Starlink) in store and post office (posters, brochures); broadcast radio messages in language outlining options and pros and cons of post-paid services.</p> <p>Consider offering Belong or Boost pre-paid vouchers in store and post office (both use Telstra network but cheaper data rates).</p>	<p>TDC, EARC, Australian Communications Consumer Action Network (ACCAN), Telstra, NBN retail service providers, Australia Post, Murrinhpatha Nimmipa Store, TEABBA</p>
<p>High turnover of devices leading to affordability issues with replacement costs.</p>	<p>Stock sturdy cases for each phone type and encourage purchase of case with new phones to reduce need for replacement.</p>	<p>Australia Post, Murrinhpatha Nimmipa Store</p>

Identified Issue	Possible Actions	Potential Stakeholders
Digital Ability		
Mentor support for use of government and online services when needed.	Employment of two digital mentors (male and female), possibly based at library, Centrelink or Catholic Care, to support people with limited digital ability to use government and online services and apps, set up phones, add recharge data, and build awareness of scams and online safety issues.	WDRC, NTG, Telstra, Centrelink / Services Australia, other government agencies
Need for digital skills training and support, especially for elders	Provide one-on-one digital literacy training and support for community members in relevant spaces. Consider running small group workshops in specific digital skills and use of apps for online services. Develop strategies for improving cultural authority of elders in the digital space.	Catholic Care, Wadey Library/ WDRC, TDC, Men's Shed, Aged Care, Women's Safe House
Demand for workforce readiness IT skills	Expand digital skills training options including Certificate I in Workplace Skills course. Provide digital skills workshops for CDP participants or one-on-one support in workforce readiness skills as needed.	TDC (CDP program), WDRC, Catholic Care, Batchelor Institute
Demand for cyber-safety awareness, training and resources about scams, online safety for young people, malware, content filtering, and privacy	Run cyber-safety awareness workshops (including in schools, workplace and for elders). Awareness campaign to highlight cyber-safety risks using resources designed/adapted for Wadey audience (on radio, Facebook pages, posters etc.). Consider establishing a Council of Elders to enable cultural authority of elders in the digital space.	TDC, Catholic Care, NBN Co, NTG, Top End Aboriginal Bush Broadcasting Association (TEABBA), Office of e-Safety / Be Deadly Online
Media Services and Production		
VAST Direct-to-home TV services not working on estimated 65-70% of residential households	Review number of houses without VAST. Look at costing to upgrade to local digital broadcasting of all 16 Freeview services plus ICTV (compared with ongoing maintenance of over 300 houses). Replace antennas and cabling on houses. Upgrade VAST TV services (where wanted) on houses on outstations and outside of broadcast footprint.	NT Housing NT Government, WDRC, Dept of Infrastructure, Transport, Regional Development and Communications (DITRDC)

Identified Issue	Possible Actions	Potential Stakeholders
RIBS radio not currently broadcasting local messages and content.	<p>TDC to seek to recruit a RIBS Broadcaster and Media Coordinator to reinstate local language radio broadcasting and media production.</p> <p>TDC to consider expanding RIBS broadcaster role from 3hrs/day to additional hours and tasks (e.g., journalism, social media, digital mentor, video production, archiving).</p> <p>Invite TEABBA to do broadcaster training workshop with potential broadcasters and possibly an outside broadcast event to re-launch the RIBS.</p>	TDC, Thamarrurr Youth program, TEABBA, NIAA (funding agency)
Lack of support to maintain ABC radio services and replace wide coverage.	<p>Replace the high-powered FM transmitter to provide ABC radio service across the Thamarrurr region, for access to emergency information.</p> <p>Seek funding to maintain ABC services (TEABBA radio funded by NIAA).</p>	TDC, NIAA, TEABBA, Australian Communications and Media Authority (licensing).
Kanamkek Yile Ngala Museum needs replacement building to store cultural and media collection, continue to undertake archiving and enable community access.	<p>Seek funding for a dedicated multi-media archive facility in Wadeye to store and enable access to digital media collections (photos, videos, audio recordings), community records and cultural heritage materials.</p> <p>Continue to digitise and catalogue the media collection and set up public access system for culturally managed access to the collection.</p> <p>Train local staff to do archiving work.</p>	TDC, Thamarrurr Rangers, Dr Lyndon Ormond-Parker (ANU), AIATSIS, First Nations Media Australia (FNMA) which has set up a digitisation facility in Alice Springs.



Figure 20: Mural on community recreation hall



Appendix 1: Summary of Survey results

The following results are based on the initial analysis of surveys with 75 residents, of which 93% identified as Aboriginal. As outlined in the Executive Summary, the final results may differ slightly from these results after data cleaning and weighing against ABS statistics. These authoritative results will be available via the Australian Digital Inclusion Index website and data dashboards in mid-2023.

Demographics

- + **Gender:** 67% of respondents were female and 33% male.
- + **Identity:** 93% of respondents identified as Aboriginal, with five non-Indigenous.
- + **Education:** 32% had completed up to year 12, 12% a Certificate course and 5% a graduate diploma/certificate, Bachelor or postgraduate degree. 19% had attained year 10 or lower.
- + **Employment:** 62% of respondents were employed (34% full-time), with 15% engaged in CDP activities and 16% unemployed. 40% had been looking for work in the last month.
- + **Welfare:** 63% received some form of government pension or benefit, primarily JobSeeker/ Youth Allowance, and Family Tax Benefit Part A or Part B.
- + **Housing:** 71% live in multi-generational or shared households, with an average 7.1 people per house. 59% pay rent to the public housing authority, with 24% boarding or living at home.
- + **Health:** 13% (10 people) had a long-term disability or health condition.
- + **Language:** 95% spoke a language other than English at home with 92% speaking Murrinh Patha and three other languages spoken including Kriol. Most respondents indicated they understand written English (79%) and spoken English (87%) very or quite well.
- + **Income:** Average weekly household income was \$1360. 17% of respondents' household income was under \$300 per week, 11% from \$300-\$1000 per week, 19% from \$1000-1500 per week, 18% from \$1,500-2000 per week, and 16% from \$2000-4000 per week.

Phone use

- + **Phone Use:** 76% of respondents said they regularly use their mobile phone for phone calls, with 17% using someone else's mobile phone, 13% use a community office or workplace phone, and 9% are without any phone access.



67%

female respondents



73%

Employed or engaged in CDP activities



34%

Of employed respondents work full-time



81%

Own or share a mobile phone



\$214

Average monthly household mobile expenditure



33%

Listen to TEABBA Radio daily or weekly



53%

Get news and information direct and in person daily



81%

Get emergency information direct and in person

- **Public Phone:** 9% said the public phone was reliable, with one person saying it was sometimes reliable, and 33% saying it was not reliable. 56% of respondents do not use the public phone.
- **Phone ownership:** 81% of respondents said they owned a mobile phone (13% of these shared with others). Of those with phones, 100% had smartphones and 90% used pre-paid services. There is an average of 4.7 mobile phone services per household.
- **Data use:** Of the 61 responses on monthly data use, 3% used an average 1-5GB, 39% used 6-10GB, 31% used 11-20GB, 20% used 21-60GB, 5% used 61-100GB, and one person had unlimited data. However, 56% exceeded their monthly data limits up 11 times in the past year, and 25% exceeded their limit every month, suggesting that data use may be higher.
- **Household Expenditure:** Of the 74 responses on household mobile expenditure, the total monthly expenditure was \$15,855, an average household cost of \$214/month. 22% of respondents indicated their household paid up to \$100/month, 35% paid \$101 - \$200/month, 26% paid 201-300/month, and 17% paid over \$301/month.

Media use

- **Radio Listening:** 60% said they never listen to radio. The most popular radio stations were TEABBA Radio and ABC, with 12% listening to TEABBA Radio daily and 21% weekly or occasionally, followed by 9% listening to ABC radio daily and 25% weekly or occasionally.
- **Radio Access** (multi-choice question): The most common way to listen to radio was through the car radio (32%), with 16% streaming via phone or tablet and 7% listening only in public spaces.
- **TV Access** (multi-choice question): 47% of respondents reported watching TV via streamed services on their phones, 17% via VAST satellite, 13% only watch DVDs, and 8% (six people) on a computer or tablet. 24% reported never watching TV.
- **VAST TV Access:** Only 35% of respondents reported having VAST satellite TV working, with 27% saying the VAST equipment wasn't working and 39% without VAST. Of those that reported the VAST not working (multi-choice question), 50% didn't know why, 35% said the set-top box was not working, and 25% said it was due to a damaged dish or cabling.
- **TV and Online Content:** YouTube was the most popular service (28% watch daily, 19% weekly), followed by streaming services (e.g. Netflix, Stan, etc - 12% daily, 5% weekly), and commercial TV (e.g. channels 7, 9, 10 - 8% daily, 19% weekly). Popular occasional watches were NITV (19%), SBS TV (17%), ICTV (16%), and ABC TV (16%)
- **News and Information Services:** The most common source of news and information was direct and in person (53% daily) followed by social media (Facebook 24% daily, other social media 13% daily). Community noticeboards and commercial TV were also popular sources of news.
- **Emergency Information:** The most common sources of emergency information was direct and in-person (81%), followed by Facebook (35%), ABC TV (26%), ABC Radio (20%), online emergency services (e.g. Bureau of Meteorology, government website or app - 19%), with 12% (nine people) also mentioning sirens from the local police station or via police cars.

Internet use

- + **Latest Internet Use:** 80% (60 of 75 people) had used the Internet in the last week, with an additional four people (5%) having used it within the previous month, two (3%) more than six months ago and nine respondents (12%) having never used the Internet.
- + **Regular Internet Users:** Of the 85% (64 people) who had used the Internet within the last month:

 - 23% said they used the Internet almost constantly, another 38% several times a day, 11% once a day, and 17% using it at least once a week.
 - The most common online device used is the smartphone (94%), followed by the smart TV (20%) and desktop computer (16%).
 - Some people use Internet provided by others, with 42% reporting using the Internet at their place of work or education, and 17% at the house of friends or family.
 - Reasons regular users gave for not using the Internet more often were expense (45%), not needing to use the Internet more often (41%), concerns about inappropriate content and conflict (25%), limited access (22%) and lack of local language content (22%).
 - 47% of respondents said they were not concerned about the time they spent online, with 22% slightly to moderately concerned about how it affected their wellbeing and relationships, and 17% (three people) extremely concerned.
- + **Low Internet Users:** Of the 15% who never or rarely used the Internet, the primary reasons given for not using the Internet more often were limited access (64%) and low confidence (45%). Only two respondents had considered using the Internet since COVID-19 restrictions were lifted.
- + **Impact of COVID-19 on Use:** COVID-19 restrictions led to increased home Internet use, particularly lockdowns (29% slight to significant increase) and working from home (28%).
- + **Fixed Broadband Services:** The majority of respondents (83%) do not have any form of fixed home Internet. Of the 13 respondents with fixed broadband, two had NBN Sky Muster, four had ADSL, and seven listed 'other' (possibly 4G modems). 77% (10 people) said they had a data allowance of less than 10GB data per month, one had between 10 and 50GB per month, one had between 200 to 300GB per month, and one had unlimited, with 62% exceeding their limit between 1-11 times, and 15% each month, over the last year. The average cost was \$27 a month.



80%

Of survey respondents used the Internet in the past week



12%

Never use the Internet



45%

Of regular users gave the reason "the internet is too expensive for me" for not using the Internet more



41%

Of regular users gave the reason "I do not need to use the Internet more often"



83%

Of households do not have any form of fixed home Internet



47%

Can send and receive emails



67%

Use online banking

- **Mobile Broadband Service:** 21 households (28%) used a mobile broadband device (e.g. portable modem) with 100% of these pre-paid. Data limits were typically 6-10GB/month (57%). 76% exceeded their monthly data limit between 1-11 times in the last year and 10% every month.
- **Affordability of Internet:** 43% of respondents said they sometimes cut back on essential household costs (and 24% often or always) in order to afford personal or household Internet within the past six months. 44% compromising on speed and/or quality on their connection to prioritise affordability.

Digital Ability

- **Overall Digital Ability:** Digital literacy is at a moderate/low level in the community.
- **Regular Internet Users:** Of the 85% who regularly or semi-regularly use the Internet:
 - Nearly half can send and receive emails (47% said 'very true' or 'mostly true') with most able to find and install apps/software (56%), open a new Internet browser tab (56%), connect to a Wi-Fi network (64%), download and then open a file (52%), use a mobile device as a Wi-Fi hotspot (64%). There was lower confidence in completing online forms (45%) setting up a group chat/video call (39%) and using keyboard shortcuts (31%).
 - For online security and cyber-safety awareness, most people can set and manage secure passwords (61%), adjust privacy settings (56%), add or remove friends or followers (56%) and decide what personal information to share online (50%). There was lower confidence in identifying safe apps to download (44%), checking if information was trustworthy (42%) and managing how personal information is collected (34%).
 - For online content creation, 30% can produce digital media content, 39% post videos, and 19% can create a website. There is low awareness of online copyright law (23%).
 - About half of respondents know how to connect smart devices (e.g. smart TV) to the Internet (55%) but only 36% are confident in adjusting privacy and security settings.
 - The main online activities include online banking (67%), accessing government services (52%), online learning or study (41%), online buying or selling (e.g., through Amazon, eBay, Gumtree – 34%), online shopping (33%), and parcel tracking (32%).
 - Social media is used by many for keeping in touch with family or friends (57%), engaging with community (50%), and meeting people or connecting with old friends online (48%).
 - 67% had used online entertainment services in the past six months (e.g. video/music streaming, online games) and 23% attended a music, arts, or cultural event online.
 - In the past 6 months, 38% had navigated a route via maps on a smartphone.

Comments

Theme 1: More affordable Internet and mobile services needed

- + Cheaper Internet mobile service
- + Cheaper Internet mobile service
- + Cheaper Internet mobile service
- + I don't have a phone because it's too expensive
- + Cheaper Internet mobile service
- + Cheaper Internet mobile service
- + More mobile Internet
- + Cheaper Internet mobile
- + Need free Internet
- + Too expensive mobile - only access public computer in the Men's Shed
- + Cheaper Internet mobile Internet
- + I only use the phone for calls to family
- + I do Internet banking on someone else's phone.
- + Cheaper Internet
- + Cheaper Internet
- + Cheaper Internet
- + It costs too much to use the Internet on my income so I don't use it much
- + More data cheaper Internet
- + Cheap Internet mobile phone
- + Cheaper mobile phone



I'm looking after the whole family on parent payment so I'm always looking for money for power card and food. Mobile is too much.

Theme 2: Digital skills training and support needed

- + There should be a place to learn to use computers.
- + I want help to learn about using mobile and Internet.
- + I would like to learn more computer skills and to use online services
- + I want someone to help me use online services. We don't have money for power or phone
- + I would like to learn to use computers and online services.
- + I need some training and help to learn to use the Internet
- + I'd like to see more training, appropriate use of social media. Facebook is causing bullying and fights in Wadeye, and private lives being shared publicly.
- + I want to learn more digital skills for work
- + Would like to learn more for Internet
- + I want help to learn more digital skills



I need more training to learn to use mobile and Internet, then I can do my own banking and tax. I want to buy my own mobile so I can keep using it.

Theme 3: Demand for improved mobile service and expanded coverage

- + Mobile only works outside, not inside my house. I have to sit outside to use the phone or Internet
- + Internet struggle to keep up on mobile service - difficulty using Internet on mobile during peak times - peak between 6-10pm
- + Need a more Telstra service



Very low coverage at place or residence. Another Telstra 4G tower as Internet is incredibly slow due to high town usage. Only having one tower in a town this size just does not work!

Theme 4: Demand for community Wi-Fi and access computers

- + We need more Wi-Fi around the community
- + Need more Internet
- + We should have an Internet cafe in Wadeye.
- + Need a computer learning centre.
- + Need a new Internet connection

Theme 5: Demand for working public phones

- + Need a Public phone
- + Public phone
- + Public phone
- + We should get a public phone
- + Public phone

Theme 6: Need for phone and Internet access on homelands

- + We've got no Internet at the homeland
- + Need phone and Wi-Fi at the homelands.
- + We want Internet at the homeland at Kubulyirr



Figure 21: Broken phone box outside EARC office

Theme 7: Need for repairs to VAST TV services

- + We need to get the TV fixed up. The satellite hasn't worked for over 2 years.
- + We need Internet for TV
- + New dish and box needed for TV

Theme 8: ABC radio upgrade and expansion

- + ABC radio cuts out - no ABC short wave radio coverage

Appendix 2: Audit of demographics and communications in Wadeye

About the Community	
Community Name:	Wadeye community
Alternate name	N/A
Traditional owners/ Language group	Dinnuman (19 traditional owner groups in Thamarrurr region)
Location (Coords)	16.51 degrees South 122.8955209 degrees East
Region	West Daly
LGA/Shire/ Regional Council	West Daly Regional Council - Wadeye Ward
Land Council	Northern Land Council
Regional Service Centre, distance	Darwin - 398km
Remoteness (ABS)	Very remote
Demographic Data - ABS 2021	
ABS link - All persons	https://abs.gov.au/census/find-census-data/quickstats/2021/IARE704005
ABS link - Aboriginal and/or Torres Strait Islander people QuickStats	https://www.abs.gov.au/census/find-census-data/quickstats/2021/ILOC70400502
Total population	1924
Aboriginal and Torres Strait Islander population	1650 (85.8%) / (Indigenous status not stated 3.3%)
Gender breakdown	Male 48.7% / Female 51.3%
Median Age / breakdown	The median age of people in Wadeye was 27 years. Children aged 0 - 14 years made up 26.6% of the population and people aged 65 years and over made up 3.7% of the population.
Families	408; avg children - 2.5 for families with children); 1.8 overall
Language group- number of first language speakers	Murrinh Patha - 1486 (77.8%); Other Australian Indigenous Languages 85 (4.4%)
% ATSI people who speak an ATSI language	95.5%
% who speak only English at home	Of whole population - 237 (12.3%); Of Aboriginal population - 53 (2.9%)
Employment levels	Employment data not yet released
Education levels - % of people attained	Of people aged 15 and over in Kalumburu, 15.9% reported having completed Year 12 as their highest level of educational attainment, 5.8% had completed a Certificate III or IV and 1.0% had completed Advanced Diploma or Diploma.
Number of households, people/household	339 occupied private dwellings; 72 unoccupied
Housing suitability/ overcrowding	The average number of bedrooms per occupied private dwelling was 4.8 .The average ATSI household size was 5.4 people with average 2 people per bedroom. 190 houses required one or more extra bedrooms.

Median Weekly ATSI household income	\$535
Median Weekly personal income	\$161 (over 15 years)
Average weekly rent	\$50
Number motor vehicles per dwelling	0.8
Community Services and Plans	
Community Layout Plan	See: https://bushtel.nt.gov.au/profile/426
Agencies in community	Thamarrurr Development Corporation, West Daly Regional Council, Wadeye Primary Health Centre, NT Police, Fire and Emergency Services, Wadeye Safe House, Catholic Care NT, Our Lady of the Sacred Heart Thamarrurr Catholic College, Save the Children, Kardu-Diminin Corporation (Store), NTG Dept Premier and Cabinet (see Services Map https://coggle.it/diagram/WI7LjI7Xuas6l-mg/t/wadeye-service-map)
Visiting agencies	Telstra, NIAA, NTG agencies, energy
Community development plans	TDC in development
Power supply/type in community	Diesel generator; solar banks set up in some homelands
Use of power cards in households	Yes
Basics card site?	Yes (Australian Government planning to make this voluntary)
Types of Communications Available	
Public phones- number/ location	None working in Wadeye community at time of visit.
Home phones- number	None identified in resident houses; Agencies and staff houses have only fixed line telephones
Mobile services - 3G, 4G, 5G, small cell	4G/3G tower in Wadeye; Satellite small cell recently installed in Fossil Head homeland (33km south of Wadeye)
Business grade services - number of connections	NT Police, Emergency and Fire Service (NTPFES); Our Lady of the Sacred Heart Thamarrurr (OLSHT) Catholic College; Wadeye Clinic.
Fibre to community	Yes.
Satellite services - number, locations, provider	Limited use of NBN satellite with primary connectivity via 4G; OLSHT College has satellite backup; Murrinhpatha Nimmipa Store getting NBN Business satellite for back-up
UHF or HF Radio	HF used by Rangers, but not by other agencies; UHF used by police
Status of services- faults, issues, speeds during peak use time etc	Thamarrurr DC have 11 satellite phones; OLSHT College use satellite phones for field trips; NT PFES have satellite phones and in-car satellite communications
Communications Programs - Mobile Black Spots, Regional Connectivity Program, ICP, etc	Congestion on 4G service (anecdotally from after 10am to 10pm, changes with population); Several extended outages in recent years including February 2022.

Any planned upgrades?	NBN have offered two satellite Wi-Fi hotspot installations; No other upgrades known
Emergency information system	Police do face to face communications before cyclones; Siren activated for evacuation; Satellite phones and UHF used by police and emergency services, but not HF/VHF (due to lack of privacy)
Telemetry network	Not known
Homelands communications	Temporary satellite 4G small established by NT Government at Fossil Head (33km away) following recent unrest (since removed); Temporary Speedcast satellite dish on trailer at Kudantiga and Fossil Head, provided by NT Govt (since removed); Mobile boosters installed by WDRC in some outstations (Kuy, Namarluk, Merrepen); Activ8me maintains Wi-Fi-enabled public phones at three homelands (Wudaduk, Mulingi, Deleye) and Telstra community payphones (wall mounted, not Wi-Fi enabled) at Fossil Head, Merrepen, Namarluk, Old Mission, Kuy, Nama, and Wudapili.
Media Services Available	
Radio services broadcast- AM or FM	TEABBA Radio (Wadeye RIBS) 106.1FM, ABC Radio Darwin 102.1FM, ABC National 100.5FM
TV services -local broadcast, number of DTH services, number working	VAST DTH only; was one RIBS TV service after Digital Switchover but not in service for several years
RIBS radio station- location, staff, roles	Located at back of youth complex, not currently staffed
RIMO- regional provider	TEABBA
Other media services- newspaper etc	None - NT News (available at store), monthly newsletter Ya Kardu produced by Thamarrurr DC
Community Access Facilities	
Internet access facility- where located, number of computers, server, printers, other facilities, videoconferencing	3 community access computers in TDC office, 2 in Centrelink office; two access computers at Men's Shed; Catholic Care planning to set up internet café.
Public Wi-Fi availability	Public Wi-Fi available at WDRC library during opening hours
Access computers available in other facilities - art centres, store, community office, youth centre etc	Library have two public access computers; Catholic Care setting up Internet café with two computers and printer/ scanner
Any programs running to support community access- provider	No, but CatholicCare doing online literacy training; Safe House helping with SIM card activation.
Training / Skills Data	
Number of community members that have undertaken digital training	No data available.
Nature and provider of training programs?	No regular training provider. Catholic Care to offer some digital skills training and support in new group training room.

Training options available- school, TAFE, CDP other	Catholic Care run 6 week financial literacy and online services course, looking at other digital training; Limited adult learning options available other than workplace training (Rangers, school etc).
Any workplace digital skills training - rangers, art centre, media, store etc	Basic workplace digital training provided by TDC for CDP participants , with on-the-job training in most workplaces.
Any staff/ resources to support digital skills or access to online or digital services	Catholic Care and Women's Safe House provide support with SIM activation, use of online services.
Any data on use of online services/ applications	
Apps or digital tools in use - archive, media server, SAM database	Men's Shed use ArtGalleria software; Wadeye Museum use FileMaker Pro for archive catalogue; other agencies use Microsoft 365, accounting software, cloud-based services.
Use of My Gov, government services, banking	Online services used extensively by community residents- see survey results.
Tele-health usage	Tele-health used extensively by Wadeye clinic.
Videoconferencing for meetings	Videoconferencing used at Police facility for court hearings, meetings, use by other agencies; School have large VC unit for meetings and online training.
Online education or training	Limited use online learning, mainly for agency staff PD.
Online court hearings or prison visits	Court hearings held at Wadeye Multi-Function Policy facility.
Cyber-safety or scam support	Need for cyber-safety training and awareness for scams, social media use, inappropriate content sharing.



Figure 22: Barge delivering supplies to Wadeye.

Appendix 3: Photos of Research Activities



Figures 24 and 25: Marcus doing a survey with Thamarrurr DC staff member Alfred Thardim; Veronica doing a survey with Rose Ninnal.



Figures 26 and 27: Co-researchers Veronica and Mary Munar; Veronica doing survey with residents.



Figures 28 and 29: Police, Fire and Emergency Services facility; West Daly Regional Council office.



Figures 30 and 31: Daniel doing interview with Mark Crocombe at the Thamarrurr Rangers office.