

Heart of the Stirlings



SHIRE OF GNOWANGERUP

Gnowangerup
Shire Digital Census Profile

April 2018

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Local Digital Profile

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Introduction

Shire Digital Profile

Optimi Digital is a unique strategy and advisory firm, specializing in digital capability and transformation. The firm works with all levels of government, economic development bodies and corporations, to shape strategic action, which leads to improved infrastructure, enhanced literacy and greater digital participation.

Over the past four years Optimi Digital has developed a unique methodology for identifying digital demand and activity within a specific region, locality or community. The model has proved very useful in building justification for investment, towards new or improved digital infrastructure (mobile or broadband) and programs aimed at increasing digital inclusion. To date this digital readiness and assessment methodology has been deployed in WA, SA, NSW and Tasmania, to support investment plans for new infrastructure and to underpin submissions for public funding.

The cornerstone of the methodology is the creation of a unique local digital profile for each assessment site. This profile is used to build a demand investment case for upfront funding and then to assess the social and economic impact and evaluate the investment benefits following deployment of any new or improved infrastructure. The methodology is also invaluable in identifying digital inclusion gaps and areas of limited or stifled digital participation, so that strategies can be developed to address this.

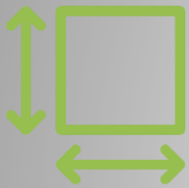
Each profile may contain a mix of qualitative and quantitative measurement methods including digital activity surveys, remote data sensors, key stakeholder consultations and desktop analysis of local social and economic infrastructure. The format for each assessment will be specific to local needs, investment questions and the specifics of the designated site, including its demographics and the logistical requirements to conduct the process.

The Gnowangerup Digital Census represents a modified version of the Optimi Digital Readiness Assessment methodology and the first time it has been deployed, to evaluate an entire municipal area. The purpose of taking this approach is to produce a Shire Digital Profile, which can be used to help formulate an overarching digital strategic view and action plan rather than just a business case for a single site development.

Shire Background

Shire Digital Profile

The Shire of Gnowangerup is a local government area in the Great Southern region of Western Australia, about 120 kilometres north of Albany and about 370 kilometres southeast of the capital, Perth. The majority of the population is located in the towns of Gnowangerup, Borden and Ongerup. The town of Gnowangerup provides the bulk of the services for the shire including a local hospital, High School, Council administration and major businesses servicing the agricultural community.



The Shire of Gnowangerup covers an area of 4,268km²



According to the 2016 Census the combined population for the Shire is 1,215



According to the 2016 Census, there is a total of 307 families within the Shire.



According to the 2016 Census there is a total of 647 private dwellings recorded for the Shire.



Total Home and Business mail delivery points for the Shire is 427



According to the 2016 Census Community Profile for the Gnowangerup LGA, the top 5 areas of employment all relate to Agriculture, making it the dominant industry focus for the region.












LGA: Shire of Gnowangerup
WA Electorate: Roe
Federal Electorate: O'Connor
Region: Great Southern

Economic & Social Baseline

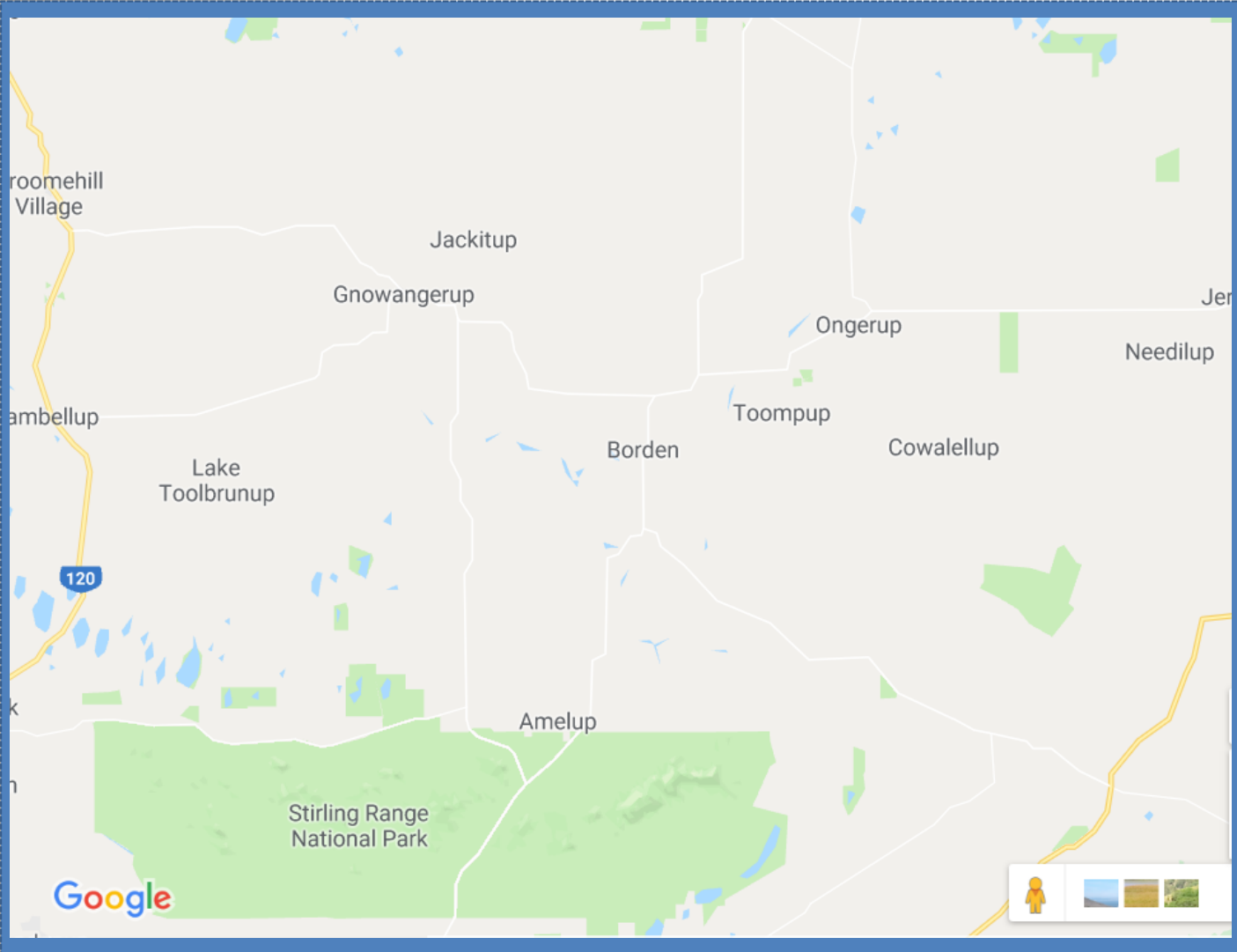
Shire Digital Profile

The measurement of digital readiness is defined by the level of digital activity set against a defined social and economic baseline. There is a minimum level of digital infrastructure expected based on the corresponding level of social and economic infrastructure. Where this level of digital infrastructure is deficient, then the ability to achieve digital readiness is compromised.

Town									
Gnowangerup	Gnowangerup District High Woodthorpe School	District Hospital Community & Child Health HACC GP	Police SES Ambulance BFB	LPO	IGA Butchers Hardware Pharmacy News agency	B&B Hotel Motel Caravan Park	CRC Shire office Church Pool Sports Complex	Plumber Tyre Service Spraying Service Smash Repairs Roadhouse Painter	CBH Duraquip Auspan AFGRI Landmark Primeries
Borden	Primary		BFB Ambulance	CPA	General Store	Guesthouse B&B Tavern	Church Sports Complex		Elders CBH
Amelup						Chalets		Caltex	
Pallinup									
Kebaringup									
Mindarabin									
Ongerup	Primary		BFB Ambulance	LPO	General Store	Caravan Park Hotel	CRC Church Sports Complex	Tyre Service Roadhouse	Museum CBH
Mills Lake									
Stirling Ranges					Cafe	Caravan Park Camping			
Jakitup									
Magitup									
Toompup									
Cowalellup									
North Stirlings									

Census Coverage

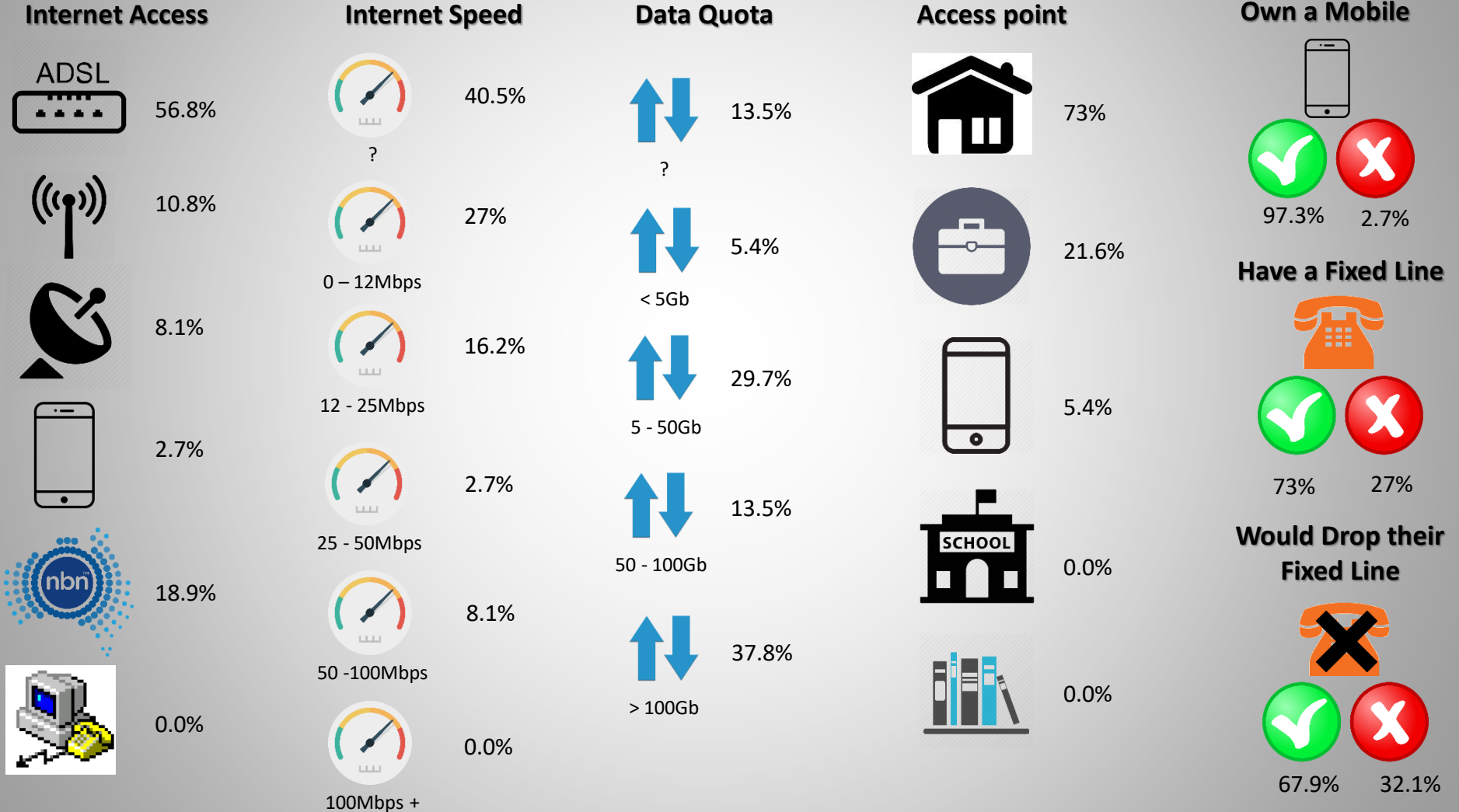
Local Digital Profile



Digital Home Access Profile

Local Digital Profile

The census of home based digital activity is split into two sections. This first Section covers how homes across the shire utilised digital technology and infrastructure to access the online world. This includes data on the choice of mobile and broadband services and plans adopted by homes.














Digital Home Usage Profile Data

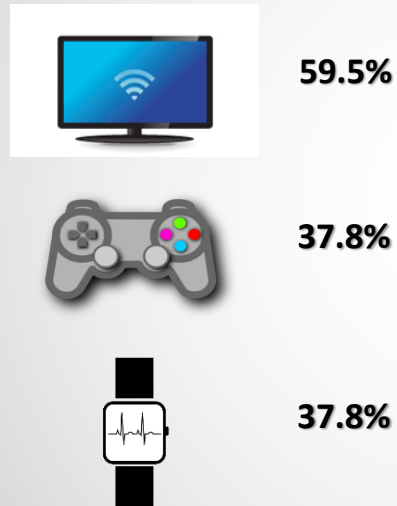
Shire Digital Profile

The degree to which homes participate in the digital and online world, provides useful insights into the existence of infrastructure and/or accessibility barriers as well as gaps in digital inclusion and literacy.

Common use of the Internet

App	%
	94.6%
	94.6%
	89.2%
	86.5%
	83.8%
	81.1%
	64.9%
	64.9%
	59.5%
	45.9%
	35.1%

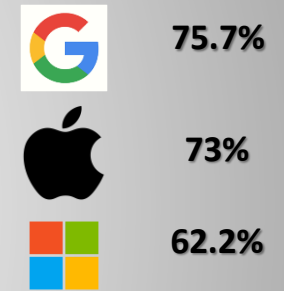
Use of Smart Devices



eServices



Online Accounts

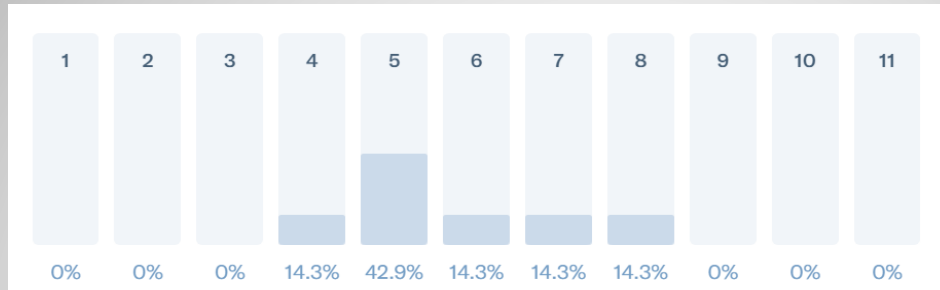


Digital Home Qualitative Assessment

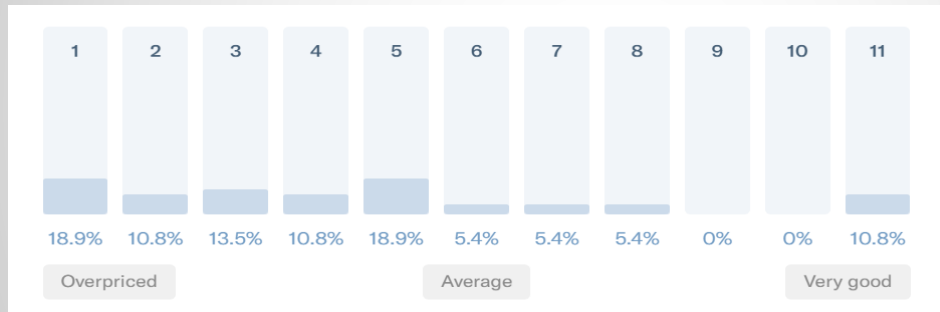
Shire Digital Profile

The Digital Census incorporates a number of qualitative assessment questions, to provide some idea of the satisfaction with current accessibility and capabilities. This also provides an indication of community support for future action.

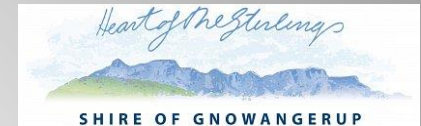
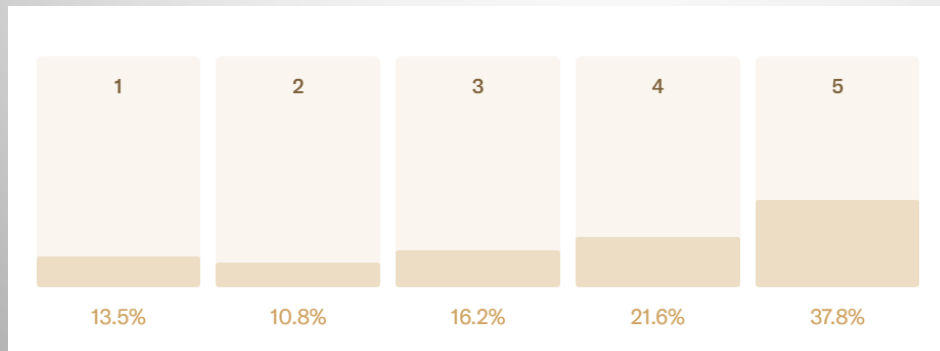
NBN Service Satisfaction



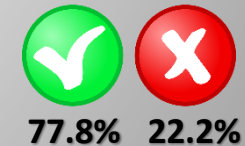
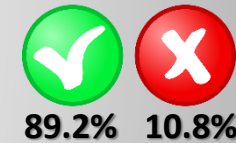
Broadband Value for \$



Mobile Satisfaction



Council Facilitated Improvement

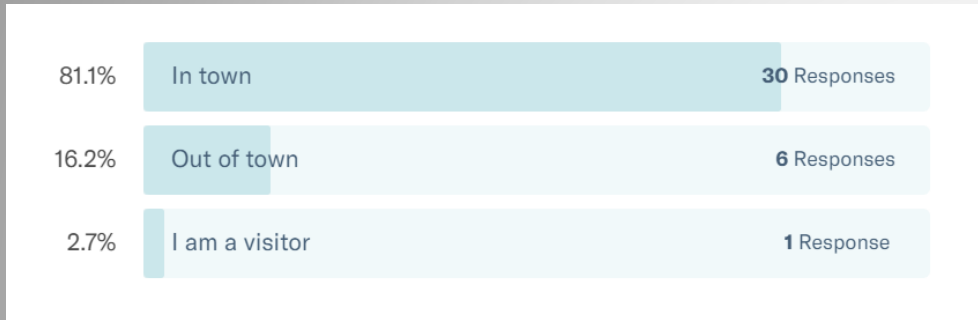


Digital Home Demographics

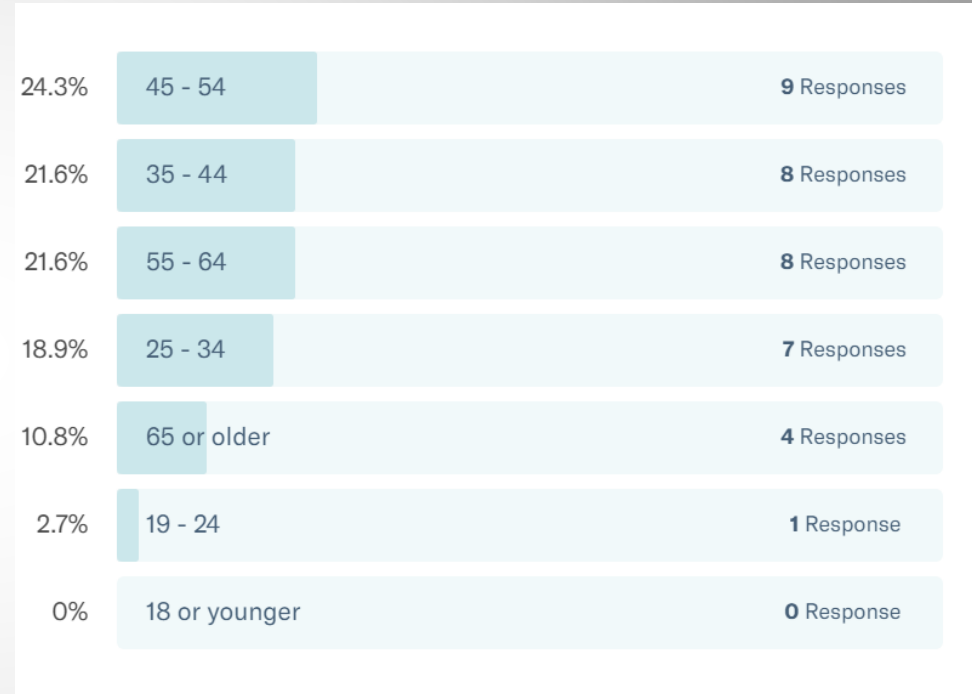
Shire Digital Profile

The demographic make up of the Home response can provide clear insights into who is already digitally engaged and which segments of the community that are not.

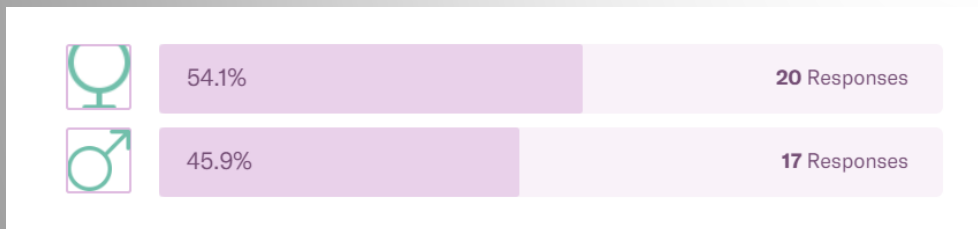
Where located



Age Range



Sex



Digital Home Observations

Shire Digital Profile

Optimi Digital has made the following observations in relation to digital home activity:

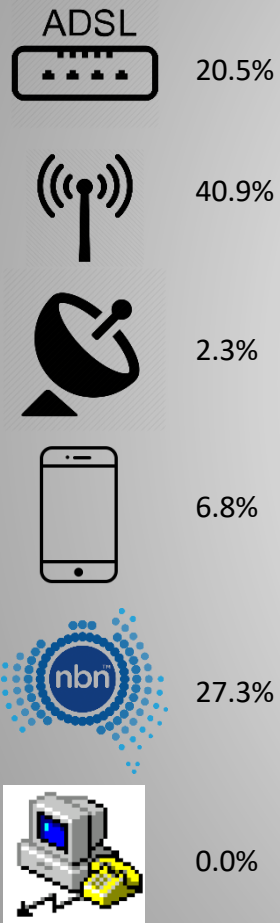
1. An indication of the interest in the NBN satellite technology can be seen in the overwhelming support for ADSL broadband, where this is available. Fixed wireless broadband (mobile data) is also popular however, this is restricted to those towns served by Telstra 3G/4G. It is expected that should fixed wireless be made accessible to more parts of the Shire, this would be adopted in place of satellite and NBN.
2. A clear indicator of the support for ADSL can be seen in the number (40.5%) of homes who do not know what speed their broadband is providing. This is a common indicator of ADSL, as it is not sold to a speed specification.
3. There is a clear preference for high data quotas, which also is shown in the strong support for higher data download applications including video/music and games. This is somewhat higher than has been observed in other regional assessments in WA.
4. Homes are seen as the primary location for accessing the internet and spending time online.
5. There is a very high ownership rate of mobile phones (97.3%) placing pressure on the need for mobile coverage across the shire.
6. Abandonment of the fixed line phone is slightly lower than the national average at 27% however nearly 70% of homes has indicated they would drop this service into the future, again placing significance on the need for better mobile coverage.
7. The Census produced a very low response from homes outside of the main towns. This could be explained as most of these homes are farms and are incorporated in the business response.
8. There is a less than positive satisfaction rating with the NBN broadband services, from those who have taken it up.
9. Mobile satisfaction was reasonably positive and this is likely to reflect the high response from Gnowangerup and Borden, where coverage is good.
10. There was an even response from across the age range and balanced input from male and female.
11. There is an overwhelmingly positive view that the Council should actively pursue better mobile and broadband for Homes.

Digital Business Access Profile

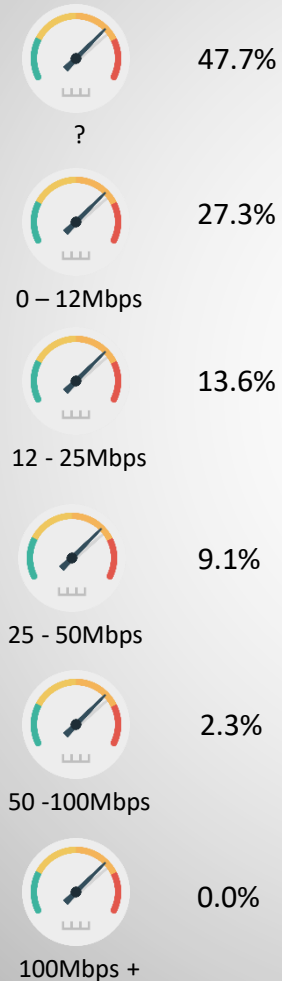
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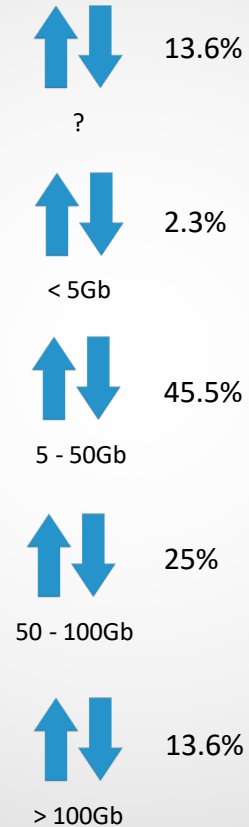
Internet Access



Internet Speed



Data Quota



Own a Mobile



Have a Fixed Line



Would Drop their Fixed Line



Digital Business Usage Profile

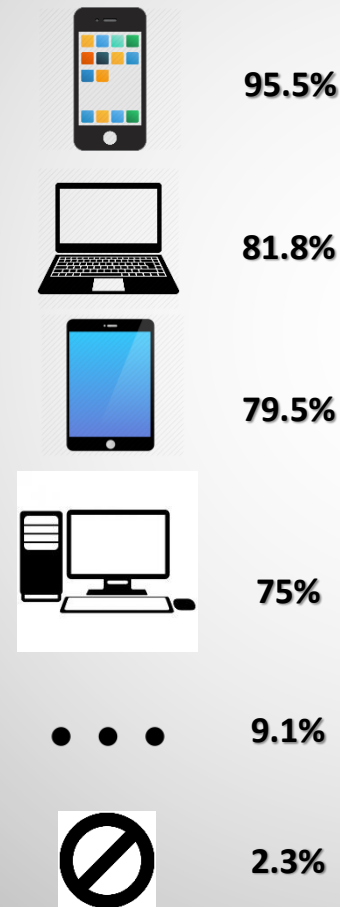
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The degree to which businesses participate in the digital and online world, provides useful insights into the existence of infrastructure and/or accessibility barriers as well as gaps in digital inclusion and literacy.

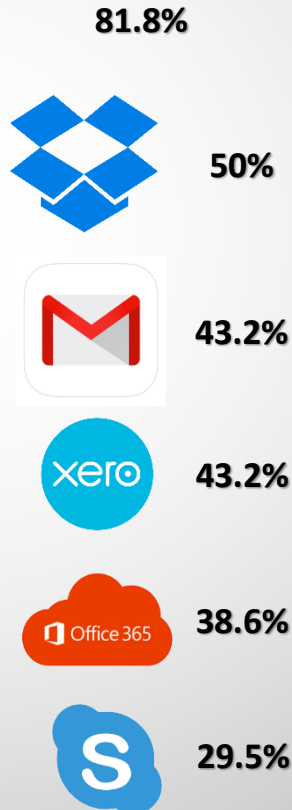
Common use of the Internet

App	%
	97.7%
	97.7%
	93.2%
	93.2%
	93.2%
	90.9%
	63.9%
	38.6%

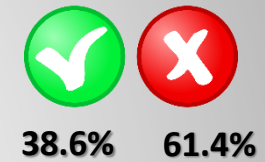
Use of Smart Devices



Cloud Applications

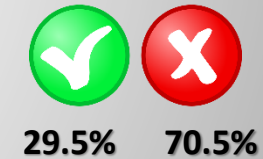


Web Presence



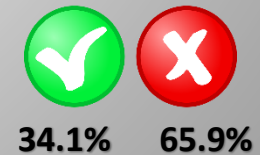
Web Presence

Digital Strategy



Digital Strategy

Social Media



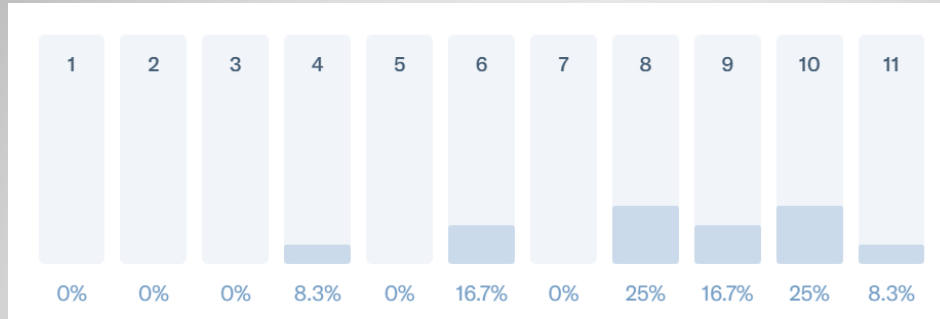
Social Media

Digital Business Qualitative Assessment

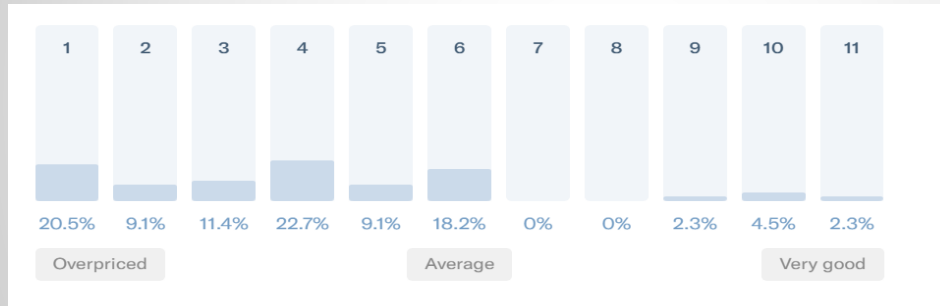
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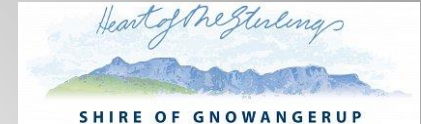
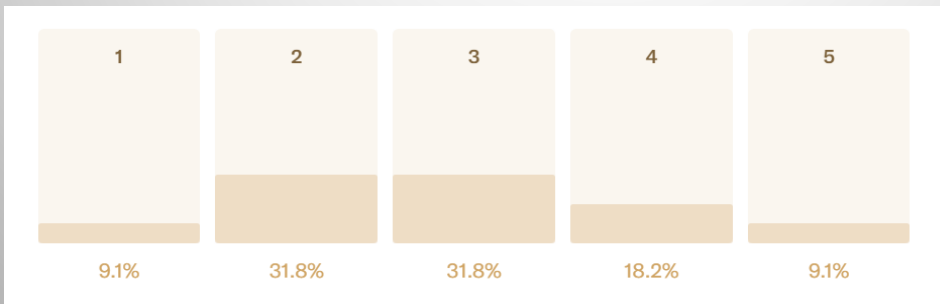
NBN Service Satisfaction



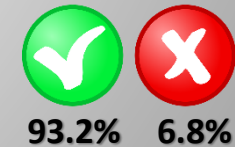
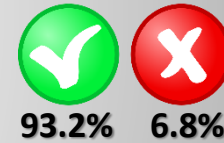
Broadband Value for \$



Mobile Satisfaction



Council Facilitated Improvement

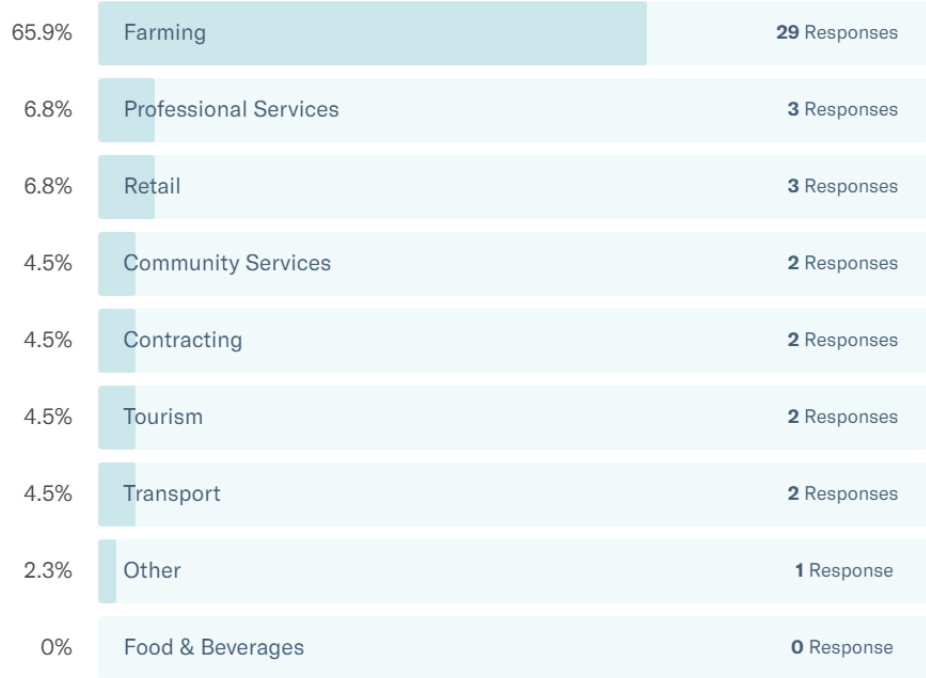


Digital Business characteristics

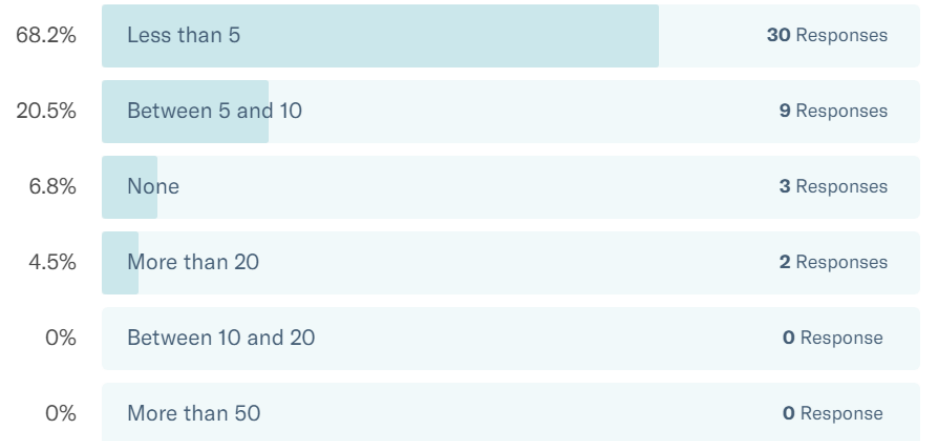
Shire Digital Profile

The characteristic make up of the Business response can provide clear insights into who is already digitally engaged and which segments of the economy that are not.

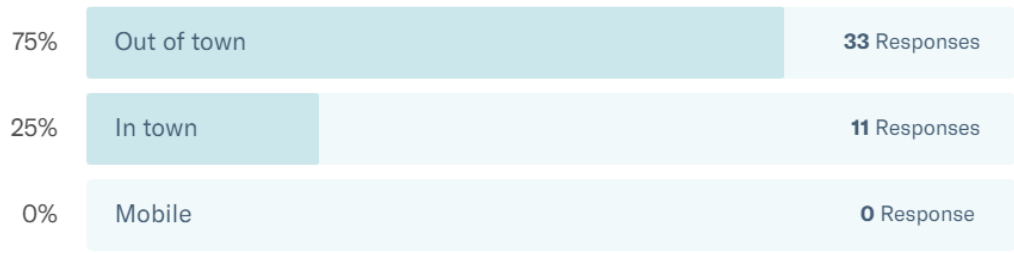
Industry Sector



Staffing



Where located

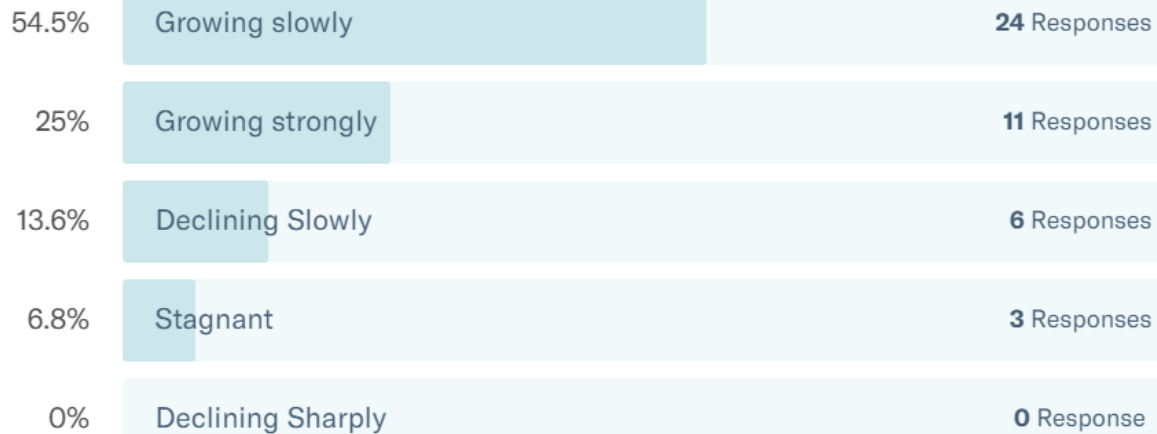


Digital Business characteristics

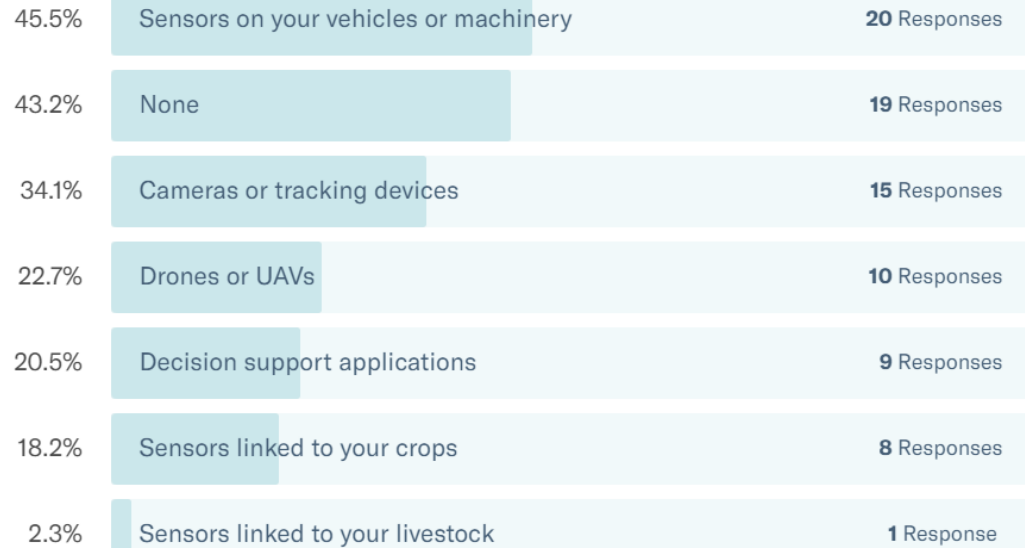
Shire Digital Profile



Business Performance



Smart Farming



Census Response Profile

Local Digital Profile

The response profile provides an indication of the level of participation in the process by local business and homes. The target is to achieve a minimum of 20% of registered postal points, responding to the Census, to produce a viable study.



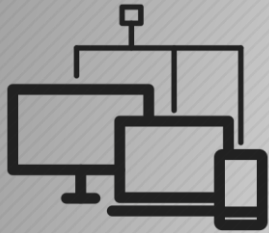
54.3%
44



45.7%
37



18.9%
81



Responses	Total visits	Unique visits	Completion rate	Average time to complete
81	127	89	91%	07:21



Responses	Total visits	Unique visits	Completion rate	Average time to complete
64	97	61	100%	07:57



Responses	Total visits	Unique visits	Completion rate	Average time to complete
9	16	15	60%	04:14



Responses	Total visits	Unique visits	Completion rate	Average time to complete
8	11	10	80%	06:09

Is there a specific need or reason why your workplace requires access to better broadband or mobile coverage?

1: We need faster and more reliable internet access, especially for use of our cloud based accounting program.

2: Majority of our work is conducted via mobile phone, internet and email. We need a reliable service especially from the Stirling Range tower that continually drops out.

3: So I can actually use the Internet, pay bills without dropping out, load attachments to emails which is not possible at the moment.

6: Our current connectivity is so poor that we time out when trying to complete internet banking tasks. we have a current download speed of around 390Kbps and an upload speed of 455kbps.

5: The mobile phone is used for business purposes nowadays. An upgrade to the mobile tower on Moir Hill in the Stirling Ranges is long overdue. It is still operating under 3G!! and is expected to cover a vast area.

4: The internet and mobile coverage are an integral part of running a successful business. Without good coverage we can not conveniently complete tasks (grain marketing, online banking, sharing data with other professionals) as fast as people in the city areas.

Digital Business Comments

Shire Digital Profile

7: Down time for internet or slow connection and dodgy mobile coverage interrupts work and can make work unsafe because communication directions can be impaired Also do not run a farm #26 but no option to answer correctly

9: Internet banking & downloading software & information is erratic & unreliable. Mobile coverage is inadequate & slow.

11: technology is an increasingly important part of farming and we need to have much better access to high speed internet with much larger data packages to support the coming advances in agriculture

10: Need reliable mobile coverage for business calls - drops out often. Also internet slow during day when lots of people using it. Living in the country shouldn't mean we have poor coverage/speed.

12: Many tasks that require mobile or internet coverage associated with running our business are too slow, unpredictable and unreliable

8: Servicing tourism industry, rely on internet for booking system and accounting programs also online applications for guests - would be great to have the ability to allow guest internet connections when their mobiles may not be in service area - very commonly asked question but currently not a viable or stable option.

Census Comments

Shire Digital Profile

14: *Education is important in the use of technology - all students need access to a reasonably priced, fast internet service.*

16: *with the progress in farming systems we will need better broadband and mobile coverage.*

17: *Safety co-ordination during work and emergencies mobile coverage goes down with power outage, no back-up dangerously poor communication in large fire or other emergency.*

19: *Largely because we have two remote offices that we need to remain in contact with on constant basis.*

15: *Safety of workforce - many areas of farm not covered by adequate mobile coverage. We switched over to NBN satellite coverage for our internet connections - this service has allowed us to operate without interruption in our business and is much quicker than the broadband service we had been using. We receive 190GB (70 peak, 120 off peak) for \$70 per month which is cheaper and provides many more gigs than our old broadband service.*

18: *Access required to high speed NBN Services with large download allowance as we have at present eg 1Gb per month. Satellite services not suitable due to high latency issues.*

Digital Business Comments

Shire Digital Profile

20: *Increased volume of work (and leisure) is done online requiring a fast, volume based, cost competitive service, that doesn't drop out (is reliable), with adequate support & backup.*

21: *Need NBN Speeds with large 1GB download limits and not on satellite as that has huge latency issues.*

22: *I have poor mobile coverage over the farm. The mobile internet is slow and expensive with limited data available so I do not develop any new avenues of utilising the service due to its limitations.*

23: *the time lost waiting for the internet to load and refresh is frustrating.*



Digital Business Observations

Shire Digital Profile

Optimi Digital has made the following observations in relation to digital Business activity:

1. The Census produced a higher response rate from Business and in particular Farmers, than for Homes. This would suggest a strong understanding in the business community of the need for improved digital access and services.
2. Wireless is the preferred broadband medium and given no evidence of local Wireless Internet Service Provision it would appear that the reliance is on mobile data through Telstra 3G and 4G.
3. The majority of the Business response comes from the agricultural sector (Farms), located outside of the main towns. This would explain the higher concerns expressed as compared to Homes.
4. Those Businesses that have adopted NBN are generally positive about the experience and service.
5. Business in general is less positive about broadband services across the Shire providing value for money.
6. Business is also less impressed with the standard of mobile coverage, which is likely due to the fact it is their preferred means of accessing the internet.
7. In the main Business is more digitally active than Homes, which would not be surprising except for the high representation of Farms.
8. There is clear evidence of a strong use of cloud based applications. There is however, a weak level of use of social media and having an online presence. This could be explained by the high representation of farms and not seeing this as an integral part of their business model.
9. The level of data use for Broadband was surprisingly lower than Homes however, this could be explained due to a lack of engagement in high digital content download applications.
10. There are very encouraging signs of understanding and engagement in Smart Farming practices. Something to build on and will be of interest to prospective service providers.
11. Overall it is clear that Business wants the Council to actively pursue ways to improve mobile and broadband access and encourage new service providers to the area.

Digital Infrastructure Audit

Local Digital Profile

Optimi Digital conducted an initial technical audit (desktop) as part of the Gnowangerup Digital Census. The following is a summary of the infrastructure and services identified in that review. Pages 24 to 30 provide more detailed information on the current state of digital infrastructure across the Shire.

Broadband Services

There is a mixture of broadband technologies on offer in the Shire. The bulk of these options are restructured to homes and business located within the town of Gnowangerup. This includes ADSL, 3G/4G mobile data, Satellite and NBN SkyMuster. The towns of Borden and Ongerup have both Telstra 3G and NBN SkyMuster available. Mobile coverage does spill out into parts of the rural areas however, the majority of agricultural properties only have access to NBN SkyMuster and other satellite options.

Mobile Base Station

There are several mobile sites distributed across the Shire (see page 25). An indication of the Telstra coverage is provided on page 27. The Oz Tower website indicates a number of developments have been in planning for upgrades and new site deployments however, most of these would seem to be delayed or on hold at the present. There is an indication that Optus has been planning the deployment of competitive mobile services, to the town of Gnowangerup since early 2017.

Round 1 of the Federal Mobile Black Spots Program resulted in the deployment of a new Telstra site to Borden. At this time there are no further plans for additional sites to be funded for the Shire. There are a number of planned sites for LGAs adjacent to the Shire and these may provide some improvement in coverage along the border areas.











OzTowers.com.au Data

Local Digital Profile

The following table provides data from the oztowers.com.au website on 3G/4G and NBN towers in proximity to the Gnowangerup Shire.

Legend - Active Service: 2G 900MHz, Proposed Service: (2G 900MHz), changed last 30 days: **2G 900MHz**, last 90 days: 2G 900MHz

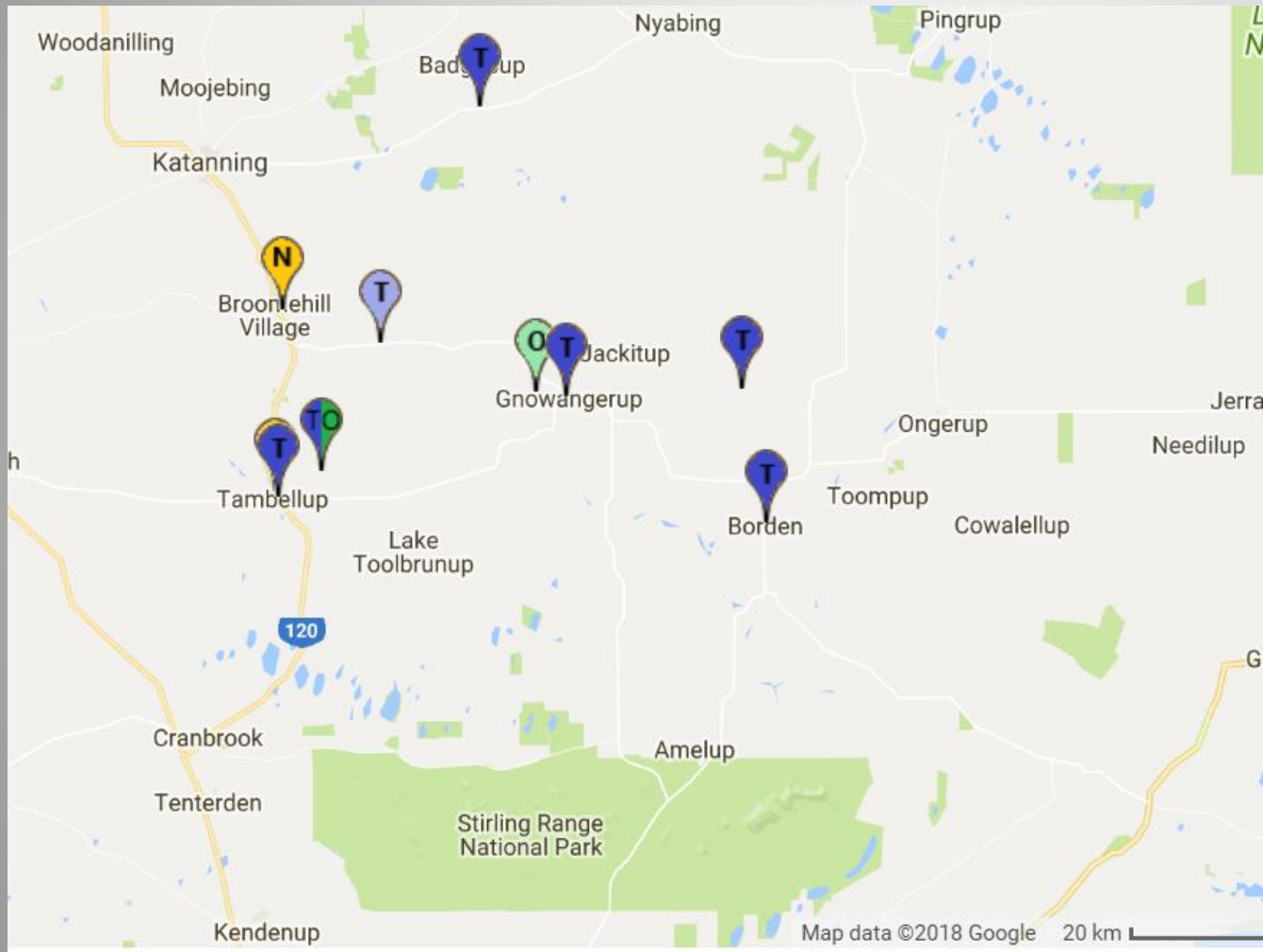
Note - * 2G Services have been switched off for: Telstra and Optus.

ID - Distance / Location	Telstra *	Optus *	Vodafone	TPG	NBN
 <u>6335002</u> - 0.07 km LOT 23 YOUNGUP RD GNOWANGERUP WA 6335	3G 850MHz (4G 700MHz)				
 <u>6335007</u> - 3.55 km Lot 4050 Soldiers Road GNOWANGERUP WA 6335		(3G 900MHz)			
 <u>6335001</u> - 20.63 km MINDARABIN RD PALLINUP WA 6335	3G 850MHz				
 <u>6318004</u> - 22.74 km 1197 Broomehill-Gnowangerup Road BROOMEHILL EAST WA 6318	(3G 850MHz) (4G 700MHz)				
 <u>6338005</u> - 27.78 km MOIR ST BORDEN WA 6338	3G 850MHz 4G 700MHz				
 <u>6320001</u> - 30.08 km Loc 1245, Jam Creek Road DARTNALL WA 6320	3G 850MHz	3G 900MHz 4G 700MHz			
 <u>6318002</u> - 34.83 km Broomehill 4 Reilly Street BROOMEHILL VILLAGE WA 6318	(3G 850MHz) (4G 700MHz)				4G 2300MHz
 <u>6317005</u> - 35.47 km Lot 6 Plan D23380 Wolyaming Rd BADGEBUP WA 6317	3G 850MHz 4G 700MHz				
 <u>6320004</u> - 35.82 km LOT 12 CROWDEN ST TAMBELLUP WA 6320	4G 1800MHz				
 <u>6320006</u> - 35.88 km 3766 (Lot 1) Gnowangerup-Tambellup Road BOBALONG WA 6320					4G 2300MHz

Map of Surrounding Sites

Local Digital Profile

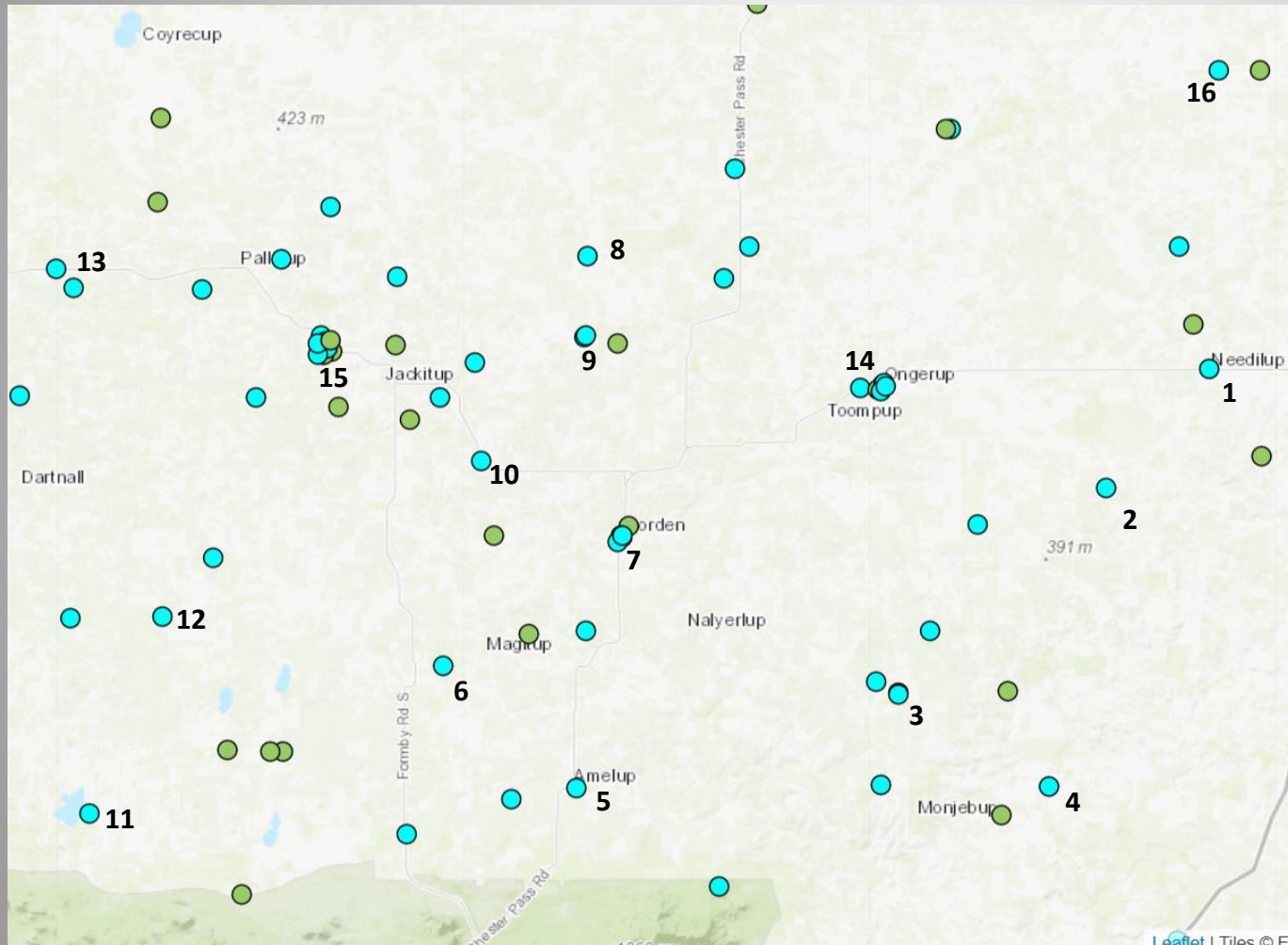
The map below is taken from oztowers.com.au and shows the distributed tower sites and their users, for the Gnowangerup Shire.



ACMA RadCom Database Details

Local Digital Profile

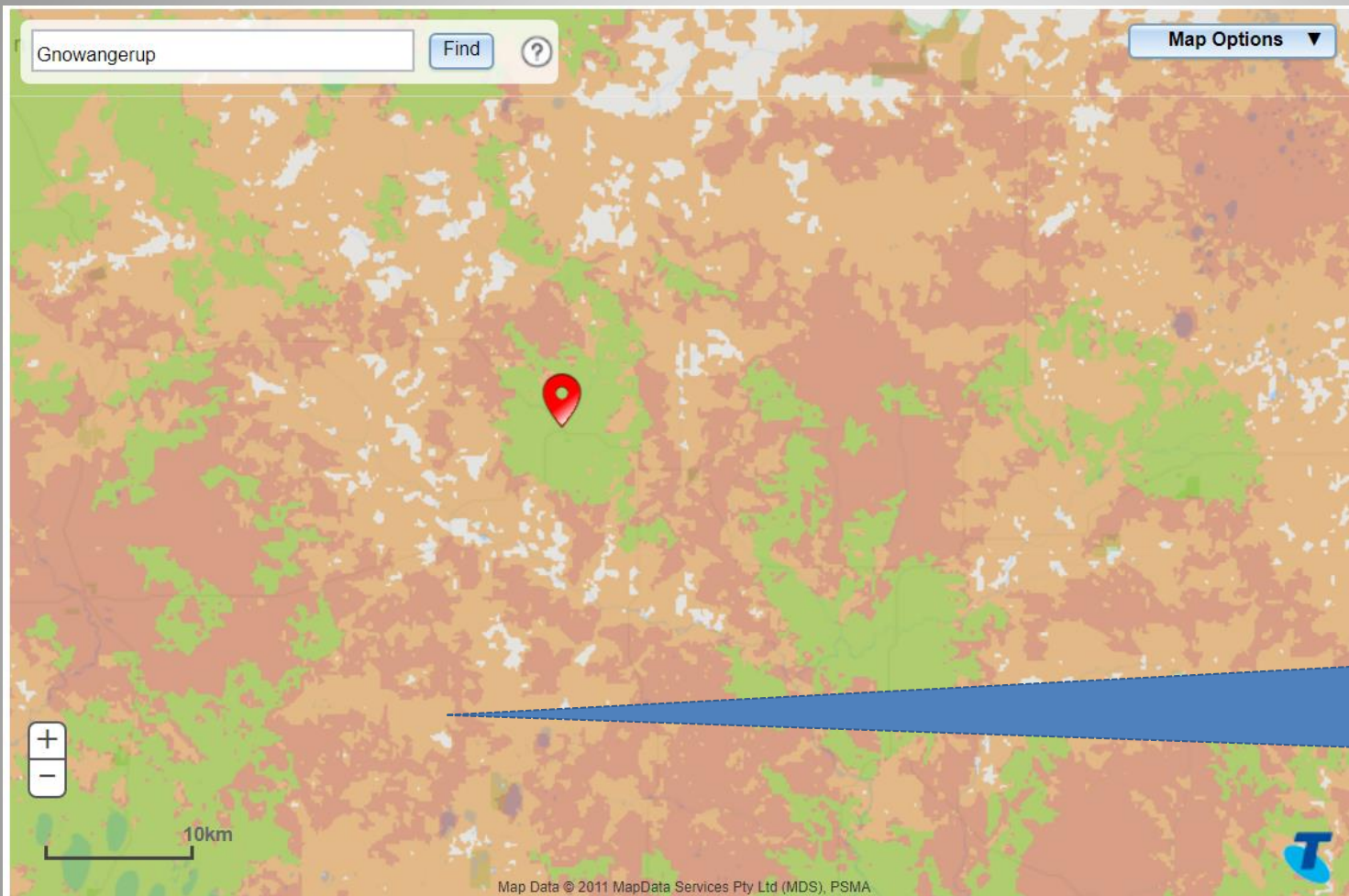
The following details were referenced on the ACMA RadComs database. This provides technical details of all radio sites and operating capabilities.



#	Site	Detail
1	Telstra Exchange Needilup	3G/4G
2	Telstra Exchange Corockerup	
3	Telstra Exchange Nalyerlup	
4	Telstra Exchange Monjebup	
5	Telstra Exchange Amelup	3G/4G
6	Telstra Exchange Magirlup	
7	Telstra Exchange Borden	3G
8	Telstra Exchange Mindorabin	
9	Telstra Site Mardleyerrup Hill	3G
10	Telstra Exchange Kebooringup	
11	Telstra Site Ham Lake	
12	Telstra Site Toolbrunup	
13	Telstra Site Broom-Hill East	3G/4G
14	Telstra Exchange Ongerup	3G/4G
15	Telstra Exchange Gnowangerup	3G/4G
16	Telstra Exchange Ongerup North	3G

Map of Telstra Mobile Coverage

Local Digital Profile



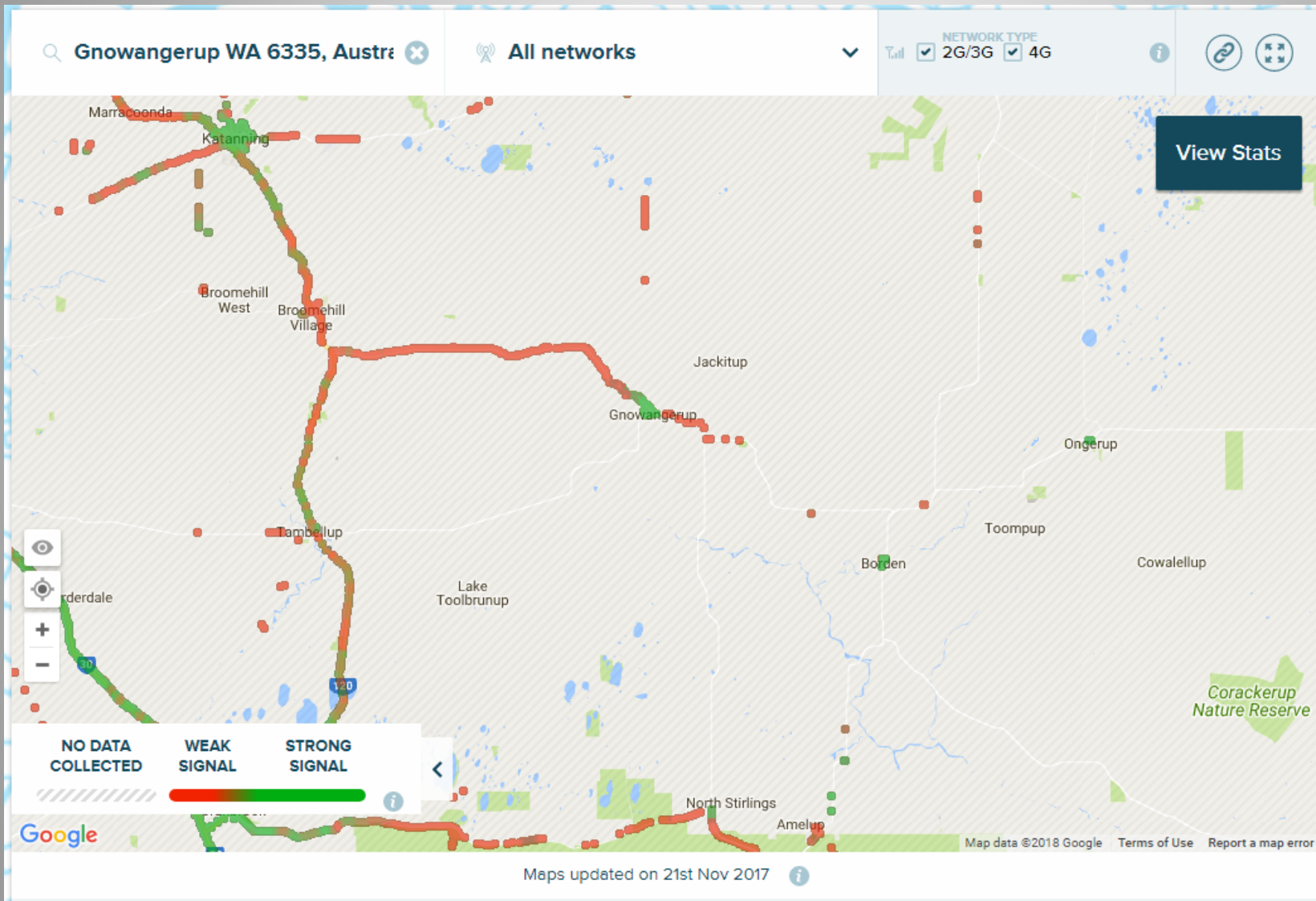
This area remains the priority focus for improvement to mobile coverage. There are no plans at this time (MBSP) to deploy additional infrastructure in this area.

This is approximate coverage only and does not include indoor coverage. Speed and performance depends on your location and device and can be improved with an external antenna at additional cost. Voice is available over all the defined coverage areas.

- 4GX device only typical download speed 2 to 75Mbps
- 4G device only typical download speed 2 to 50Mbps
- 3G device only
- 3G external antenna

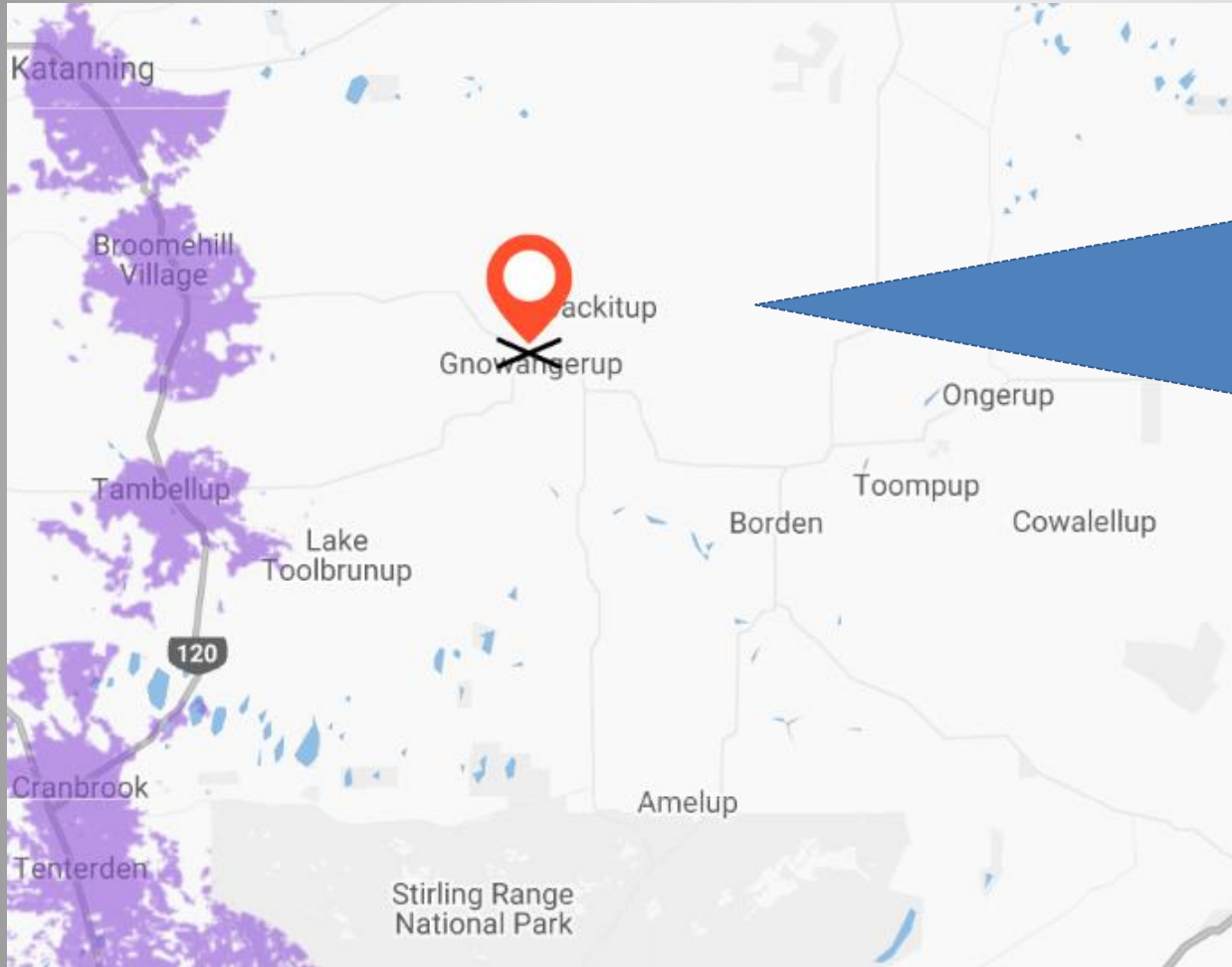
Open Signal Mobile Coverage

Local Digital Profile



NBN Deployment

Shire Digital Profile

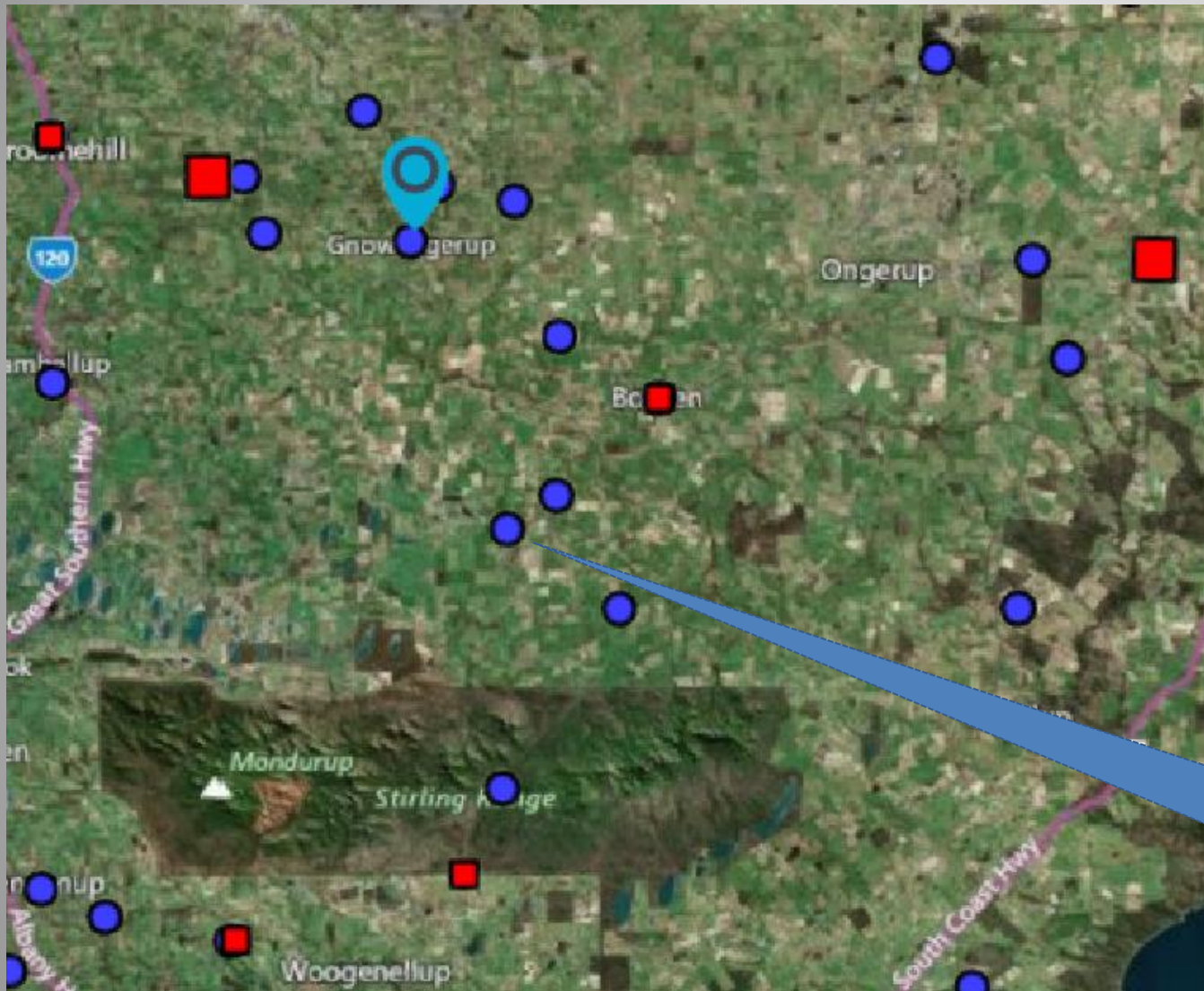


The entire Shire is open to receive improved Broadband services based on the decision of NBN to relegate it to satellite only access. The towns of Gnowangerup, Borden and Ongerup all support sufficient social and economic infrastructure to demand better broadband that has been supplied by NBN.

NBN's decision to deploy fixed wireless into Tambellup and Broomehill but not Gnowangerup and Ongerup would seem to demonstrate their inability to match service capability, to the needs of the community and calls into question much of their regional deployment strategy in WA.

Mobile Black Spot Program Status

Local Digital Profile



#	Detail
1	Borden – Telstra – MBSP Rd1
2	Needilup – Telstra - MBSP Rd 2
3	Toolbrunup -Telstra – MBSP Rd1
4	Martinup Road – Telstra – MBSP Rd 2
5	Alban-Lake Grace Road – Telstra – MBSP Rd2

- MBSP R1
- MBSP R2
- Reported Black Spot

This area remains the priority focus for improvement to mobile coverage. This can also be seen on the Telstra coverage map (see page 20).

Digital Census Recommendations

Shire Digital Profile

Based on the observations outline in this profile Optimi Digital makes the following recommendations:

1. Business wants action and is very supportive of the Council playing some role in this. I would recommend that the Council and Great Southern Development Commission share this profile with prospective service providers looking to invest in improved and competitive solutions for the Shire.
2. The Shire should raise with the Federal Member for O'Connor, the matter of being allocated NBN SkyMuster as a solution, when other smaller townships in adjacent shires have been provided with fixed wireless. This should include detailing the extensive social and economic infrastructure located in the town and the disadvantage that being connected to the NBN via satellite creates for health and education facilities as well as major business. It is also recommended that this correspondence be copied to Senator Dean Smith (WA), who has a keen interest in the NBN and is on the Joint Standing Committee, monitoring its deployment.
3. The Shire should actively seek interest from prospective service providers by issuing an EOI, to look at partnering with one or more Wireless Internet Service Providers (WISP), to bring fixed wireless broadband solutions to the Shire.
4. The Shire should review the options that it has to actively influence any prospective WISP, to partner with it, to deploy alternative broadband services to NBN SkyMuster. This could include but not be limited to access to elevated structures for hosting antennas, provision of council controlled land on high ground and support to link into existing services (primarily power).
5. The Shire should consider taking on a role to broker (aggregate) customers for an NBN alternative WISP, by engaging across residential and commercial rate payers, to seek their support to purchase their future digital connectivity needs through a preferred service partner.
6. The Shire could explore options subject to terms of the Local Government Act, to pursue the development of a Community Telecommunications Supply model, in partnership with a non NBN provider.
7. The Shire should explore actively supporting and promoting the emergence of Smart Farming practices within the Shire, to build demand for improved digital access and capacity. This is an area being evaluated by a number of the prime carriers and service providers and evidence of momentum in this space would prove valuable to attract the right investment.
8. The Shire should approach Optus seeking clarification of its plans to deploy competitive mobile infrastructure and services across Gnowangerup town site and then into Borden and Ongerup.
9. The Shire should continue to work with the Great Southern Development Commission on any regional plans and proposals, which would lead to better broadband and mobile services being deployed across the municipality.
10. The CEO and Deputy CEO should advise the elected members that the community through this Census has indicated strong support for continued and future support from the Shire, to secure better mobile and broadband access and capability, where possible.