

# Mobile Coverage Programme Discussion Paper

## Submission Cover Sheet

### Submission Information

This cover sheet should be attached to submissions made to the Department of Communications in relation to the Mobile Coverage Programme Discussion Paper.

#### Contact Details

Name of respondent:	
Name of organisation:	Mansfield Shire Council
Phone:	
Email:	
Website (if applicable):	www.mansfield.vic.gov.au
Date:	17 June 2014

#### Confidentiality and privacy

All submissions and comments, or parts thereof, will be treated as non-confidential information unless specifically requested, and acceptable reasons should accompany each request. Email disclaimers will not be considered sufficient confidentiality requests.

Respondents lodging a submission should be aware that submissions (excluding any information agreed to be treated as confidential information) will be made publicly available, including on the Department of Communications' website. Submissions and comments will be subject to freedom of information provisions. Despite a submission being identified as confidential or sensitive, submissions may be disclosed where authorised or required by law, or for the purpose of parliamentary processes.

Do you want all or parts of the submission to be treated as confidential? Yes ☐ No ☒

*If yes, identify below which parts of the submission are to be treated as confidential (and provide a reason):*

--

If the submission contains personal information of any third party individual, indicate on this Submission Cover Sheet if that third party individual has not consented to the publication of his or her personal information:

#### Submission Instructions

Submissions are to be made by **5:00pm (AEST) Friday 28 February 2014**.

Where possible, submissions should be lodged electronically, preferably in Microsoft Word or other text-based formats via the email address [mobilecoverage@communications.gov.au](mailto:mobilecoverage@communications.gov.au)

Alternatively, submissions can be sent to the postal address below (to arrive by the due date):

The Manager  
Mobile Coverage Programme  
Department of Communications  
GPO Box 2154  
CANBERRA ACT 2615

All submissions lodged will be acknowledged by the Department of Communications by email (or by letter if no email is provided). Respondents lodging a submission who do not receive acknowledgement of their submission should contact the Department. Submissions which are not acknowledged by the Department as being received may not be considered. Respondents should be aware that emails greater than 10Mb may not be successfully delivered.



MANSFIELD SHIRE

# Securing Our Digital Future



23 JANUARY 2013



# Securing Our Digital Future



## EXECUTIVE SUMMARY

**“Put simply, Mansfield Shire is seeking an effective telecommunications environment that will permit our residents and ratepayers to enjoy a reasonable quality of life, safety in times of risk and to conduct their businesses on a competitive basis.”**

**Russell Bate, Mayor, Mansfield Shire Council**

Mansfield Shire Council and community are working together to advocate for equitable telecommunication services – this relates to meeting current deficiencies and allowing for future needs.

This paper presents the social and economic challenges experienced by Shire residents and businesses as a direct result of inadequate digital services.

Disparity exists because demand and supply dynamics currently dictate service levels and Council believes there is a direct role for Government to play in providing social and economic equity to all communities, especially now that digital communication plays such a critical social, economic and emergency role in the everyday lives of rural and remote communities.

### **There are two key considerations related to digital equity for Mansfield Shire:**

1. The necessity for interim measures to bridge the digital divide and ensure some measure of equity in mobile telephone coverage, broadband speed and stability between now and 2015 (pre-NBN)
2. The necessity for NBN availability to every Mansfield Shire resident and business and that the service's performance and cost is comparable to Melbourne and regional centres.

### **Our advocacy will focus on securing:**

- An acceptance by Government and telecommunication providers that Mansfield Shire's telecommunications are inadequate and in need of an immediate improvement
- A clear pathway mapped out to the resolution of coverage and reliability issues
- A commitment by Government that Mansfield Shire residents and businesses will receive future digital services at comparable performance levels to Melbourne and regional centres





# Securing Our Digital Future



## PURPOSE

Mansfield Shire Council and community are working together to address the immediate and future digital service needs of our community. This paper presents the social and economic challenges experienced by shire residents as a direct result of inadequate digital services across our municipality. Its purpose is not to present an analysis of digital infrastructure and technology, but to promote digital equity throughout the shire and comparative equity at state and national level by:

- Providing an overview of the current coverage and connectivity situation in Mansfield Shire
- Listing essential outcomes to secure the digital future of Mansfield Shire and its community
- Explaining mobile telephone coverage and broadband connectivity service issues
- Sharing real stories of social and economic impact, faced by the Mansfield community

## SITUATION

Mansfield Shire is a regional municipality with a population of 8,000 (2012). If the current 2% population growth (ABS) continues, the projected population increase by 2021 equates to a population of 9,257. The shire is an established and flourishing tourism destination with an annual visitor population of 1.2M, creating substantial mobile and broadband capacity issues in peak visitation periods, when population increases to 30,000. A significant non-resident population (holiday properties) increases the network and service loading, further exacerbating existing capacity issues.

Our population is distributed throughout towns, small settlements, remote settlements and remote individual dwellings. Shire topography is diverse; alpine national parks, steep hills and valleys, rolling country, plains, lakes and rivers.

The topography and distribution of population (sparse and remote) presents particular coverage and servicing issues. Mansfield is certainly not unique in its comparatively small population size or the geographic spread of the resident population, however there are factors particular to Mansfield that make inadequate digital services particularly concerning now and into the future.

The remote location of settlements and visitor destinations are significant risk factors in a bushfire prone shire, where mobile coverage is inadequate.

Mansfield's vibrant tourism industry injects \$134M into the economy. The risk of ongoing lack of digital parity with competitor destinations is already a concern and has the rapidly increasing potential to damage a cornerstone of the Mansfield economy. Put simply Mansfield could rapidly find itself 'left behind'.

Building a sustainable future for Mansfield extends well beyond the two key industries of farming and tourism. Future economic development in the shire requires diversity and new industry less fickle to natural crises and potentially more future-proofed. Mansfield Shire is in other ways well-positioned to be a destination for digital and digital reliant industries, but without suitable digital infrastructure investors will simply 'go elsewhere', where metro-comparable broadband speeds, capacity and reliability (whether fixed line or mobile) are accessible.



Improving mobile broadband coverage and supplying adequate fixed line services in topographically challenging areas, to small and remote customer populations, remains economically unattractive to the telecommunications providers.

There are two key considerations related to digital equity for Mansfield communities:

1. The necessity for interim measures to bridge the digital divide and ensure some measure of 'metro-comparable' equity in mobile telephone coverage and broadband speed and stability between 2013 and 2015 (pre-NBN)
2. The necessity for guaranteed NBN delivery of equity to the Mansfield municipality (metro-comparable service) and equity to the remote rural communities and isolated residents within the municipality.

Existing fixed line (copper telephone lines) do not extend ADSL broadband service to many rural communities, or the service provides unacceptably diminished speeds due to distance from the exchange, node or tower. Wireless solutions (3G mobile networks/satellite) are overloaded and deliver unstable 'patchy' service. Issues of congestion, latency and lack of stability/drop outs are acute in rural and remote areas of the municipality.

At this time Telstra is the key provider of digital connectivity in the municipality. The majority of permanent residents use Telstra as their retail provider. Non-resident or part-time residents, many of whom are metropolitan based, utilise other carriers to a greater degree. Coverage

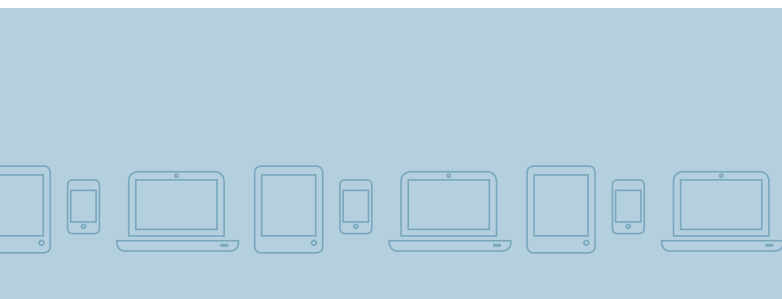
from Optus and other providers is substantially less than that provided by Telstra.

Whilst some users in Mansfield township receive broadband speeds of up to 16Mbit/s, predominantly via Telstra's ADSL1 or ADSL2+, the distance from the local exchange impacts considerably on the availability and quality of these services. Only 4 kilometres from the town centre broadband speed is highly variable with considerably less stability and areas with a significant reduction in service speed.

Broadband as a term refers to a higher-speed connection, but the speed threshold has varied over time. The widely employed 1.5Mbit/s measure for 'broadband' is considered obsolete. 4G mobile networks deliver broadband speed between 2Mbit/s - 40Mbit/s in serviced (predominantly metropolitan) areas. 10Mbit/s - 12Mbit/s would be considered a standard business requirement for metropolitan organisations and increasingly for popular 'bandwidth hungry' applications utilised in the home.

NBN promises broadband capacity of speeds up to 1Gbit/s to 93% of Australian premises (optic fibre) and peak speeds of 12Mbit/s (via fixed wireless and satellite) to the remaining 7% of Australian premises.

Remote and rural communities and individuals frequently access maximum broadband speeds of 1Mbit/s at the optimum time of day, dropping markedly at peak times. This is reported across ADSL and mobile connections. The reality of connectivity in Mansfield Shire varies from the stated coverage of key providers.




## SITUATION | continued

Providers acknowledge coverage mapping is an inexact science and factors such as distance from the base station, local terrain, user numbers, hardware and software configuration and download source/upload destination impact on coverage and service.

Nevertheless, existing provider mapping of mobile service and broadband service indicates a vastly different picture to that which is experienced on a daily basis by communities within Mansfield Shire.

The prevalence of grey and shadow areas in mobile telephone coverage is unmapped. Measures taken to extend coverage have not addressed the issue in any substantial sense.

The provision of acceptable broadband services (both speed and stability), regardless of fixed or mobile infrastructure, remains well below metro-parity and indeed below standard business or private broadband expectations. The escalating importance of the digital economy is matched only by the importance of equitable provision of services facilitating sustainable, robust regional communities.

 <p><b>BLACK SPOTS:</b></p>	no service/coverage
<p><b>GREY SPOTS:</b></p>	little service/coverage or variable
<p><b>SHADOW SPOTS:</b></p>	service/coverage, but not acceptable

## ESSENTIAL OUTCOMES

Council and community are resolved to address these inequitable service gaps and present this document as a basis for advocacy with Government and providers to improve their charted responsibilities.

- We require an acceptance by government and providers that Mansfield is under-served and in need of improvement.
- We require a clear path to the resolution of the coverage and reliability issues identified.
- We require a commitment by government and providers to ensure that Mansfield does not become a digital backwater
- We require effective digital connectivity coverage for 95% of addresses within the Mansfield Shire (wired or wireless).
- We require digital infrastructure that provides usable bandwidth at peak load times.
- We require a roadmap for achievement of effective digital coverage.
- We require clear notice as to when NBN services will be made available in our shire
- We require clear information as to whether services based on fixed wireless or satellite will ever have a speed higher than 12 Mb/s
- We require clarity on the social criteria for NBN selection of fixed wireless sites
- Where no other solution can be found the Shire requires funding to install specific telecommunications infrastructure (new towers, base stations etc.)



## CONNECTIVITY ISSUES

The two key issues to address in order to secure our digital future are:

1. Inadequate and geographically inconsistent mobile phone coverage with numerous black spots, extensive grey spots and shadow spots across the municipality
2. Inadequate broadband service (unstable service and inadequate data speed) and inconsistent standards across the municipality

## SOCIAL AND ECONOMIC EQUITY

Mansfield Shire has a comparatively small population and as a consequence the user numbers have been insufficient to drive supply of equitable service from service providers. As supply continues to be driven by demand, rather than social and economic equity, this situation is likely to remain. The consequence is social inequity, a digital divide of 'haves' and 'have nots'; when comparing one municipality to another, one town to another and one person to another.

## SAFETY

Safety is compromised when essential information cannot be accessed at the time it is required. Where mobile telephone service and fixed line coverage is unstable or non-existent then calls to ambulances or doctors are unsuccessful. This is particularly important to rural and remote residents, where connectivity is least reliable.

Visitors to the municipality have a higher 'small provider' usage (not Telstra) with a correspondingly high lack of mobile service. As a tourism destination Mansfield cannot fulfil its duty of care to visitors as essential

safety information cannot be reliably communicated. Neither are visitors reliably able to access public safety messaging such as CFA information and emergency services SMS warnings. The Emergency Management Coordinator has great concerns that people will believe they will receive an SMS warning in an emergency when they do not actually have service.

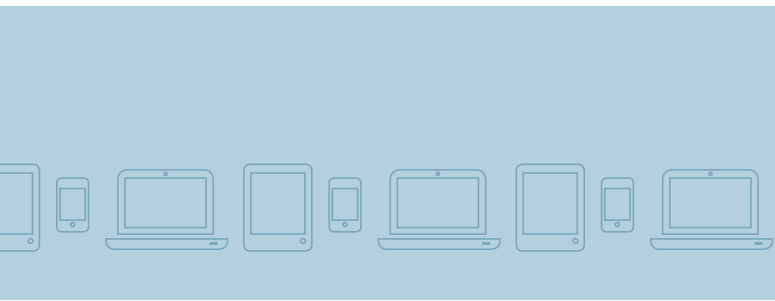
Popular camping areas have no mobile service. In peak periods, when visitation is at a high level, network congestion prevents access to online safety information. Visitors expect to be able to receive SMS emergency warnings, but in most of the rural areas this is not possible. Additionally lack of coverage inhibits both residents and visitors from timely reporting of incidents such as fires or accidents which may result in critical delays in emergency response.

## BUSINESS

Mansfield Shire has a predominance of small business operating from rural towns, remote settlements and home offices. Businesses based in Mansfield township (CBD and surrounds), equate to 50% of the 1,164 businesses across the municipality, thus over 50% of business operators experience mobile and broadband service below acceptable business standards with a direct impact on efficiency, competitiveness, costs and growth.

Businesses operating in black/grey/shadow digital service areas are frequently unable to carry out basic business practises such as conducting online sales, mobile telephone calls, virtual meetings, research or utilise national or international suppliers, source





## CONNECTIVITY ISSUES | continued

new markets or even contact clients. With the existing inequitable digital servicing there is a lack of economic equity. Businesses are unable to compete when they sit on the wrong side of the digital divide.

### COMMUNICATION

With the network latency experienced across the municipality business operation is seriously impacted. Standard real-time business communications such as Skype or video conferencing are impossible. The impact of this is compounded for rural and remote business where digital communication is vital. Social communication is a key aspect of life. Existing communication devices are rapidly becoming less relevant as other digital communication pathways are increasingly used for social connection.

### TOURISM

The tourism sector is a significant contributor to the Mansfield economy. The impact of patchy mobile telephone service is both a direct loss of bookings and indirect loss of business from perceived deficiency of professionalism.

With more than 90% of all travellers researching travel options online and the exponential increase in online bookings, adequate broadband service is absolutely essential for tourism businesses who must maintain a current, reliable and highly functional web presence and receive the contacts made via that web presence, in order to remain competitive. The broader impact is that the tourism destination of Mansfield (Shire) fails to remain competitive

in the domestic and international tourism marketplace due to inequitable digital service. Good mobile and broadband access is crucial for a robust tourism destination; visitors expect mobile reception. Lack of reception can cause visitors to choose other destinations providing better coverage.

### SOCIAL

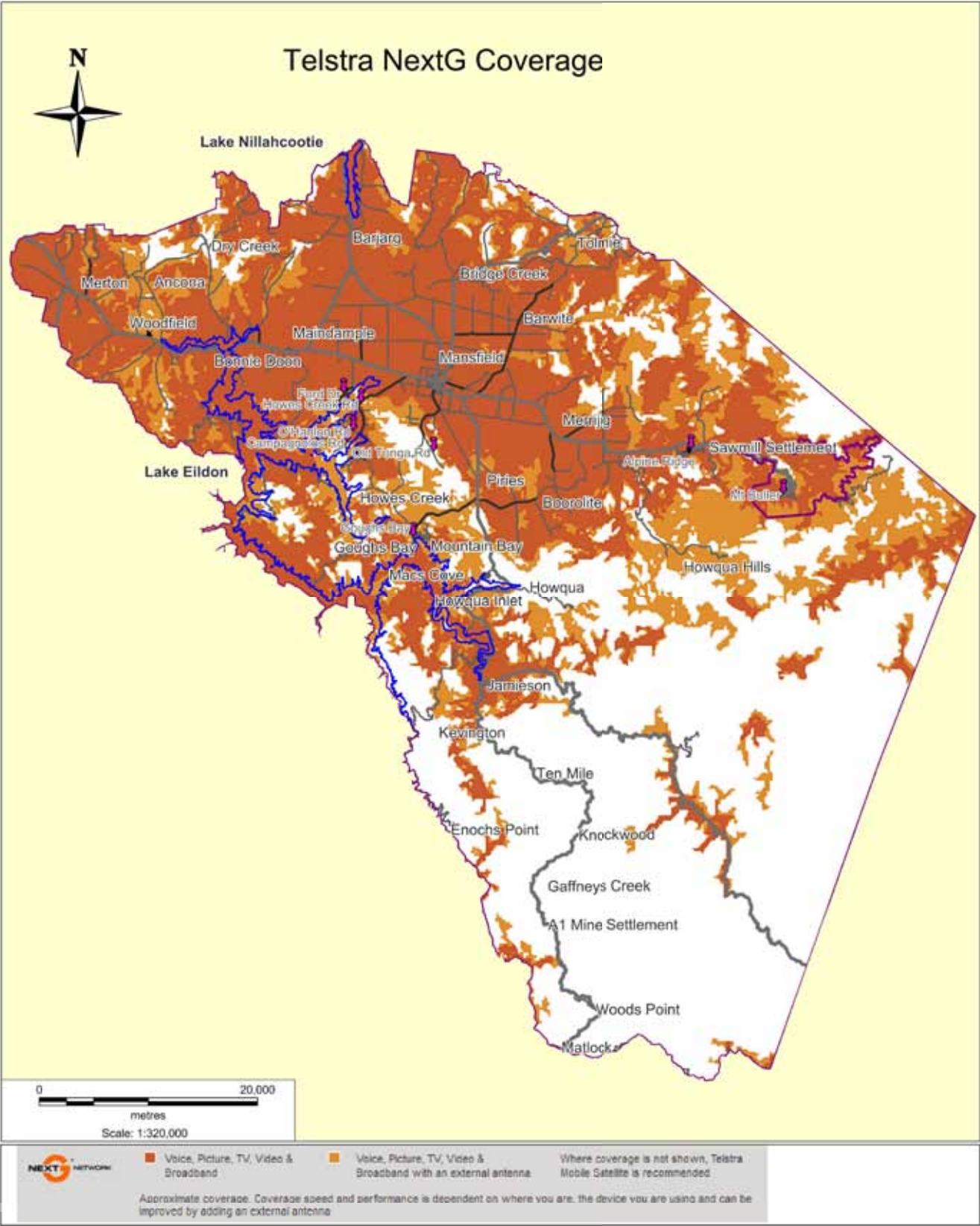
Remote and rural communities require greater access to digital communication for health, safety, education and social interaction, than their metropolitan counterparts.

Unstable or inadequate mobile and broadband service creates a level of social injustice, with communities and individuals unable to benefit from the same degree of information or the same level of current information.

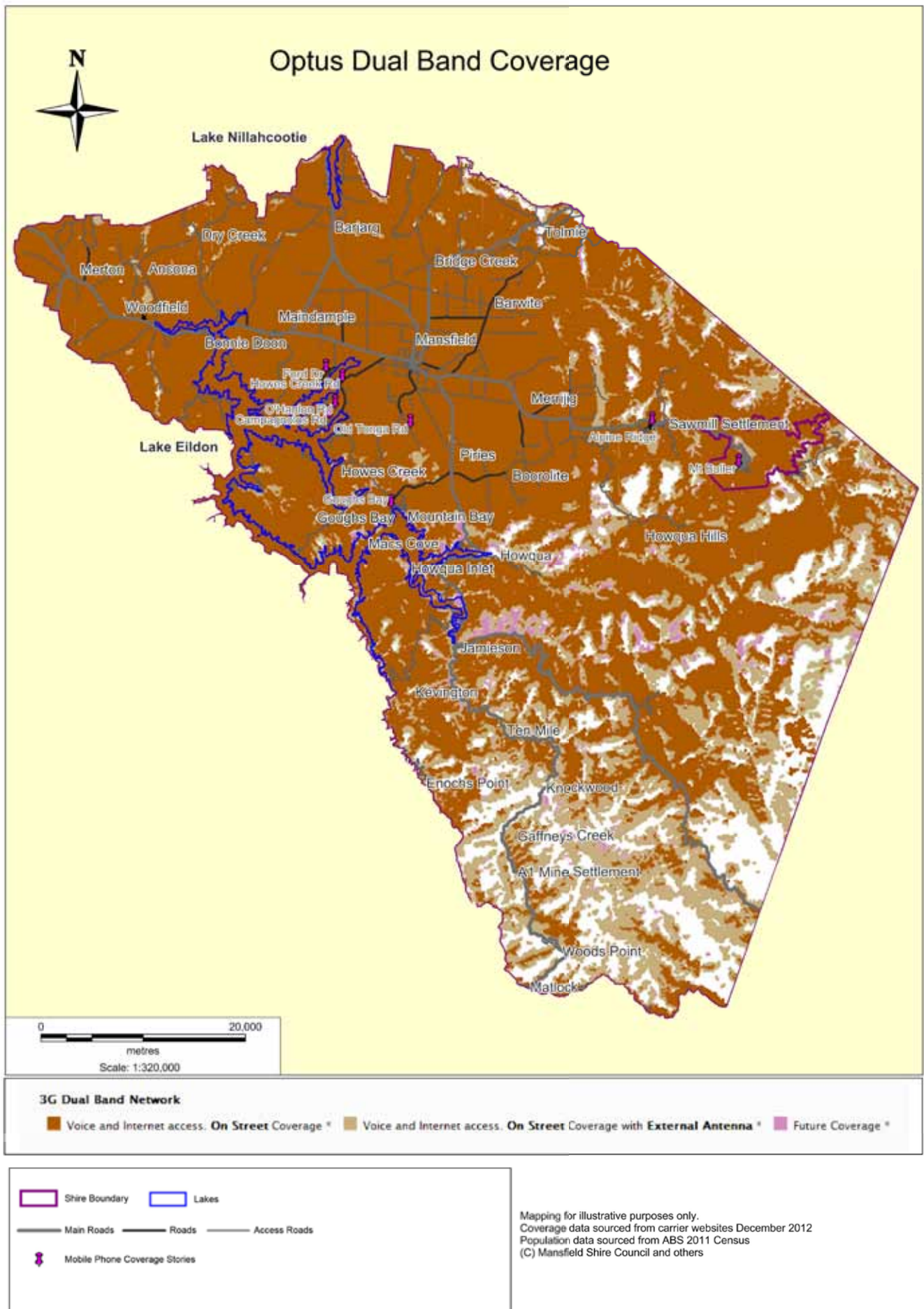
Working from home is not an option for many rural residents. Low broadband speeds and lack of access to real-time communications prohibits effective teleworking. With a large 'tree-change' population in the municipality expectations of teleworking are as high as the disappointment experienced when mobile and broadband services prove inadequate for the practice.

The gap between stated (mapped) telecommunication company coverage and actual coverage has the potential to preclude eligible users (those experiencing stipulated sub-standard services) from accessing service improvement schemes (such as ISS).

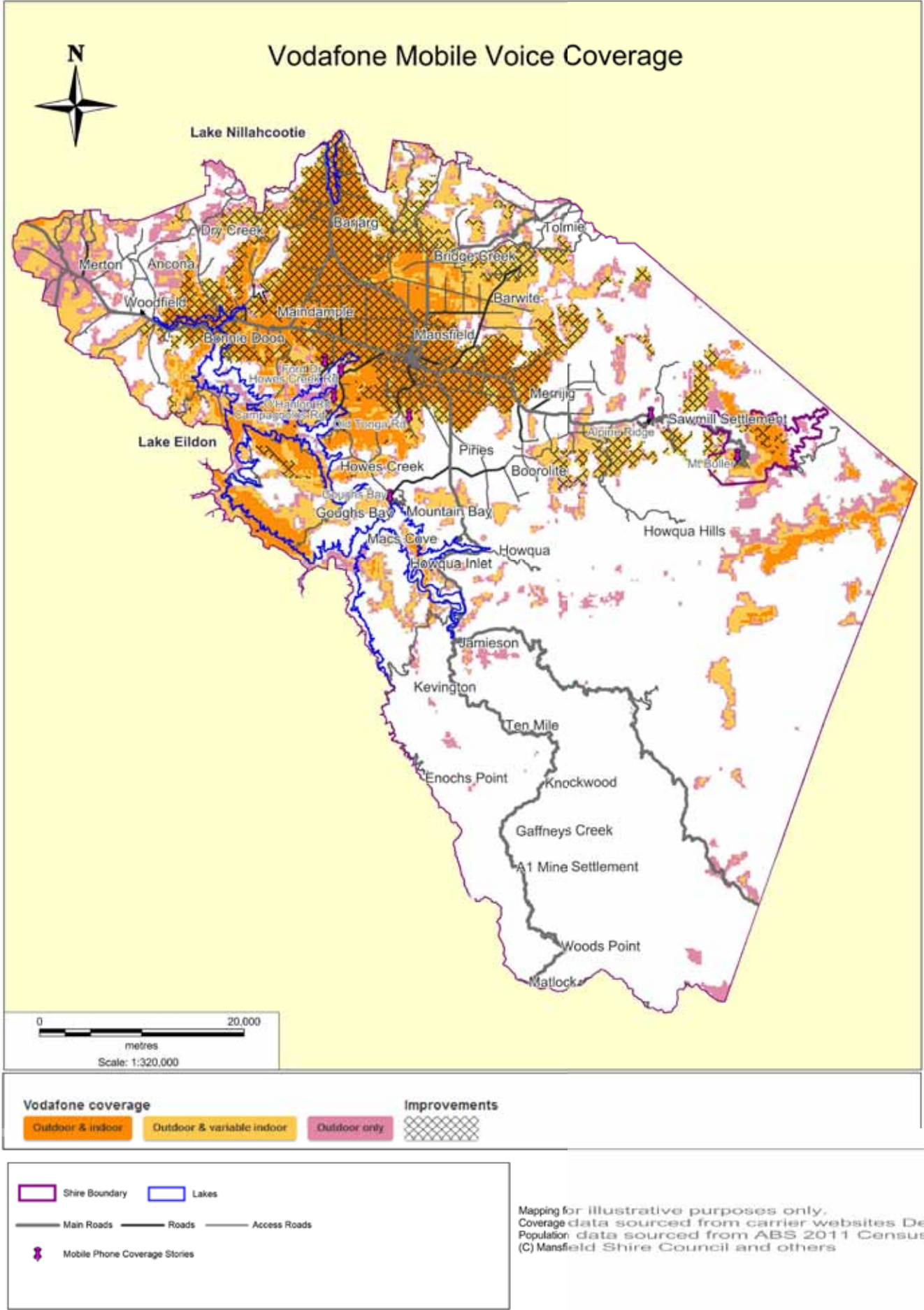




Mapping for illustrative purposes only.  
Coverage data sourced from carrier websites December 2012  
Population data sourced from ABS 2011 Census  
(C) Mansfield Shire Council and others











*Optus is my current service provider. My wife has to go outside day and night to make or receive calls on her mobile phone. I have the same issue with my mobile phone.*

## Howes Creek Road

*We get two bars of mobile signal at one point in the house and also at one point outside on our front deck, but this varies from not bad to frustrating in that the signal often drops out or just goes unintelligible. . the safety issue of this patchy signal worries us, not least with regard to bushfires.*

## Goughs Bay

*The deal with Telstra regarding our mobile phones should be a good one, but since we do not get good signal at home we rarely make much of a dent in our free calls. In addition the poor signal means that we can forget about using our internet allowance on our mobile contracts too as this is dire at best.*

## Goughs Bay

*I'm disabled and I'm alone for the most part during the day. About six months ago I was moving some equipment in our garage and lost my balance and fell becoming trapped between a mower and a wall. Finally after about 2.5 hours I was able to drag myself along the floor and stand again. I did on that occasion have my mobile with me but with no signal unable to call for assistance.*

## Old Tonga Road

*I'm also concerned each fire season as I've heard Council/CFA/SES will be using SMS messages to advise residence of Extreme/Code Red conditions or fires in the area. Once again without mobile reception and Council not being able to provide suitable evacuation options lives may be in jeopardy.*

## Old Tonga Road

*There is only one place in the house where I can get a reliable mobile phone signal so I encourage clients to call my fixed line service,*

*or once I receive a mobile call I hang up & call them back on the landline.*

*I am really trying to make this "TreeChange" business model work and generally it's going well with the one exception being mobile connectivity.*

## Alpine Ridge

*My Telstra service there is average to say the least, I can have 3 bars of service, move 1 foot to the left and no service at all . . . the service directly opposite on the other side of Lake Eildon is perfect.*

*It would be great to have a signal you can rely on for conducting business on while up here from Melbourne, however at the moment it is just too in reliable.*

## Howes Creek

*I have a flat on Mount Buller . . . to make a call I need to go upstairs against a window, I still have drop outs or no service. I have spoken to TELSTRA several times and they tell me I have good coverage? There are many black spots in the village.*

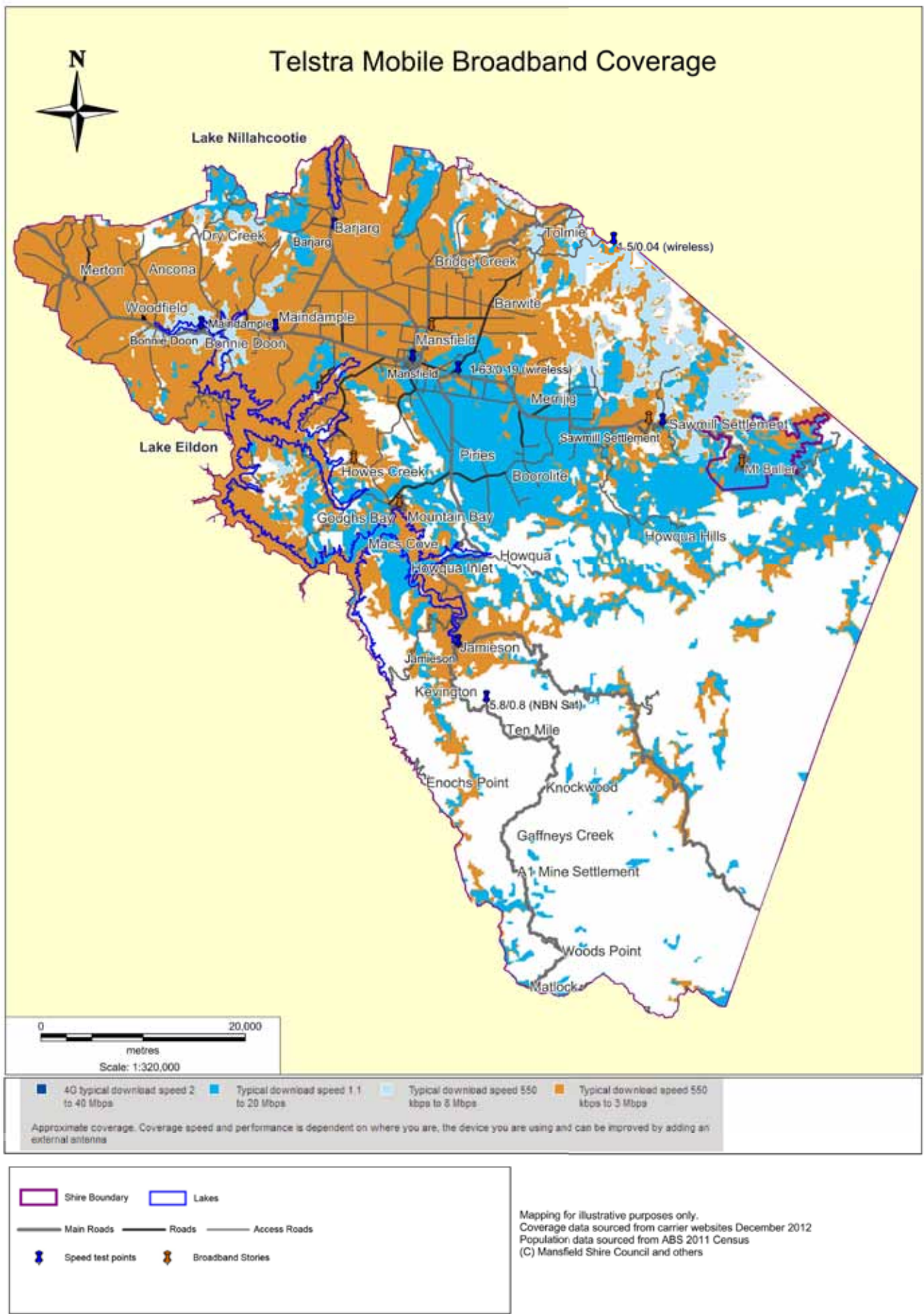
## Mount Buller

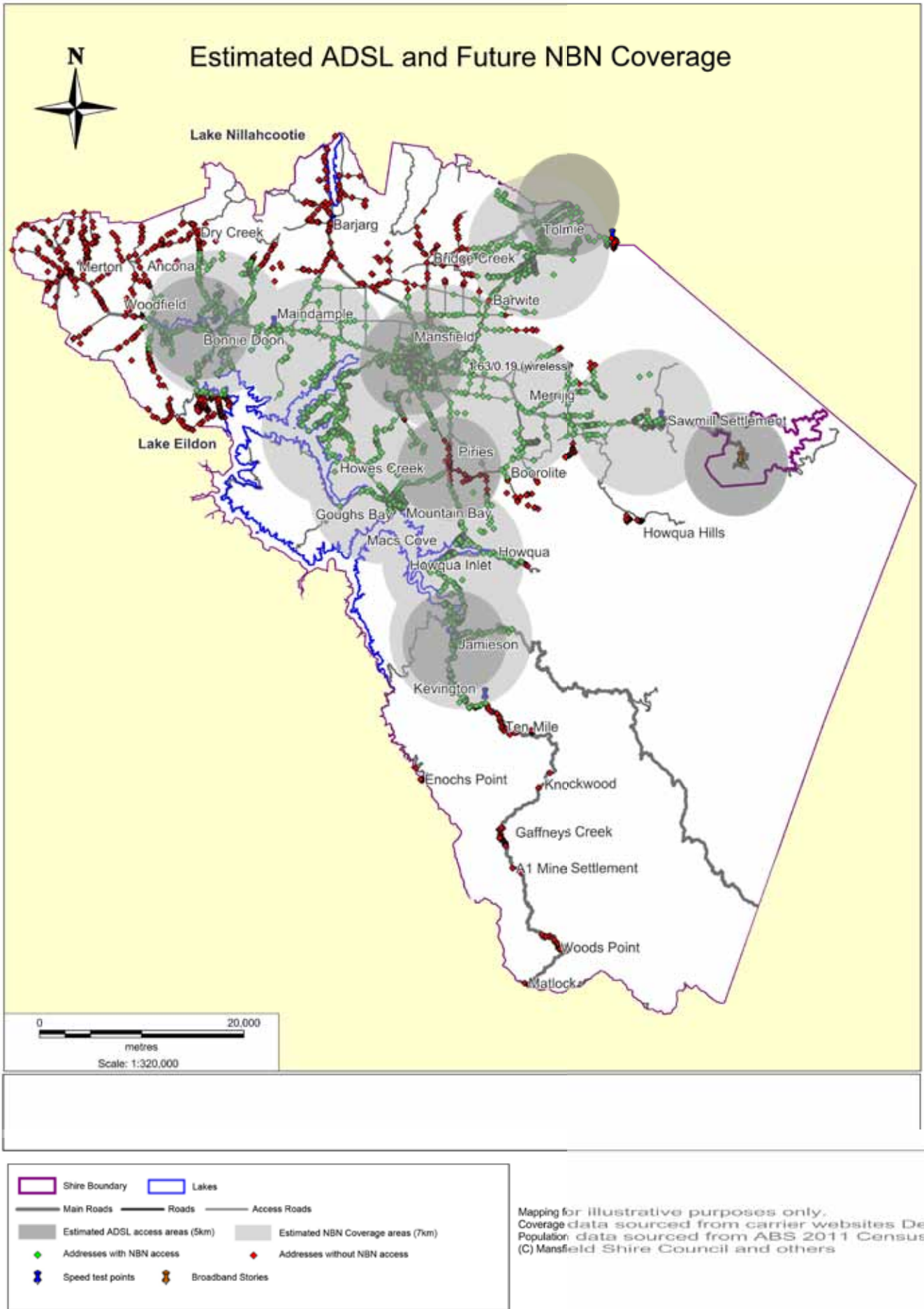
*I run a business in Melbourne and when we come to Mansfield I would like to keep running the business. On a good day if we want to make a mobile call or connect to wireless email I have to leave the house go for a stroll to the wood shed and make the connection... sometime requires me to stand on a chair or hold the phone or note book computer up as high as I can to get a signal. By the way today is a good day and I am sending this email from behind the wood shed.*

## Campagnolo Road

*We are residents of Ford Drive and although close to the Paps towers are in the shadow of the Paps and do not get mobile and internet coverage. We are with Telstra and have complained with little effect.*

## Ford Drive









*Since moving to the area... I have experienced nothing but bad and at most times non-existent mobile phone and internet connection, I have had 4 new modems, and 2 antennas sent to me in an attempt to fix the problem to no avail.*

### Howes Creek Road

*My wife was considering further studies (relating to her profession) which required the use of the internet; she is unable to do so and has become very frustrated due to the unavailability of the internet most days. The service provided in Mansfield is antiquated, inadequate and counter-productive to business and to the wellbeing of families living in the area.*

### Howes Creek Road

*We are way too far from the local exchange for ADSL so instead for three years have been using mobile broadband by means of a router which is hard-wired to a Yagi aerial on the roof. This too is patchy but when we first started using it, although far from great was usable. However the signal we receive has steadily gotten worse (we're guessing that in part this is due to the proliferation of smartphone devices which of course can also connect to the internet), but which, during the busy tourist periods, is utterly atrocious.*

### Goughs Bay

*We are happy to pay for a service if that is what we receive... we have business ideas we would like to develop but are unable to do so without some sort of modern and reliable internet and phone connection. In desperation, and as we are eligible for the governments satellite internet subsidy, we have very recently tried the satellite option, and although better than Telstra's mobile broadband, it is not so by any significant margin*

### Goughs Bay

*A Goughs Bay local uses internet banking. He has his computer set up in a room inside the house but is unable to get mobile reception in that room. When he makes a new transfer and an access code is SMS'd to him, he leaves his computer and runs to the verandah to hold out*

*his phone to receive the SMS then runs back to his computer to log the access code.*

### Goughs Bay

*I have a film/video production company and also build & host websites... I have... tried many different external antennas and positions to improve my signal strength but still battle to get just one bar of signal on my \$300 BigPond modem.*

### Alpine Ridge

*For some of my Melbourne, interstate or international clients I need to upload video files to servers such as YouTube. Because of the slow connection speed I have developed a method whereby I power my modem from the cigarette lighter of my car. Some days I need to drive to the top of the hill 2-3 times to complete my business.*

### Alpine Ridge

*I am a Mt Buller resident who also lives in Mansfield township. I have been trying to work off a wireless internet connection which caused no end of difficulties both in Mansfield and Mt Buller, constantly dropping out. I have since connected ADSL at 2 properties to try and combat the problems.*

### Mansfield

*The mobile phone and Internet connection is close to nil. We have to leave mobiles and iPad in a specific corner of a window only. I'm a remedial massage therapist and my wife a book keeper, and we want to operate our business from home and both are dependant of Internet and mobile. Gough's Bay as you know is in a high- risk area for bush fire and in case of fire we won't be able to receive any alert on the mobile.*

### Goughs Bay

*We live in Sawmill settlement, and network coverage is poor at best. We have the BigPond elite gateway modem, and a 22dbi yagi antenna on the roof. We have no fixed line internet access, so wireless is the only option.*

### Sawmill Settlement

## SPEED TESTS

### 1. GOUGHS BAY NBN Satellite Trial

**Download** 5.811 Mbps  
**Upload** 0.798 Mbps

### 2. TOLMIE (wireless)

8:45 am **Download** 1.59 Mbps  
**Upload** 0.04 Mbps  
6:15pm **Download** 1.09 Mbps  
**Upload** 0.03 Mbps  
9:45pm Failed to access  
- no service

### 3. TOLMIE (wireless)

8.45 am **Download** 1.52 Mbps  
**Upload** 0.04 Mbps  
6.51pm **Download** 0.97 Mbps  
**Upload** 0.03 Mbps  
9.51pm Unable to load speed  
test at all - 2 attempts

### 4. 5km from MANSFIELD wireless

**Download** 1.63 Mbps  
**Upload** 0.19 Mbps

### 5. JAMIESON

5.28pm **Download** 11.18 Mbps  
**Upload** 1.71 Mbps  
9.50am **Download** 0.95 Mbps,  
**Upload** 1.27 Mbps  
12.14pm **Download** 10.76 Mbps  
**Upload** 1.59 Mbps

### 6. MANSFIELD ADSL 2

5.30pm **Download** 10.16 Mbps  
**Upload** 0.81 Mbps  
12 09pm **Download** 15.87 Mbps  
**Upload** 0.86 Mbps  
6.45am **Download** 20.56 Mbps  
**Upload** 0.86 Mbps

### 7. BARJARG (wireless)

**Download** 0.47 Mbps  
**Upload** 0.65 Mbps

### 8. BARJARG

Your line speed is 522 Kbps  
(0.52 Mbps)

Your download speed is 65 Kbps  
(0.06 Mbps)

### 9. SAWMILL SETTLEMENT

Your line speed is 311 Kbps  
(0.31 Mbps)

Your download speed is 39 Kbps  
(0.04 Mbps)

### 10. BONNIE DOON

10.10 am **Download** 1.67 Mbps  
**Upload** 0.50 Mbps

### 11. MAINDAMPLE (wireless)

1.45pm **Download** 1.94 Mbps  
**Upload** 1.2 Mbps  
8.00am **Download** 0.63 Mbps  
**Upload** 0.40 Mbps  
9.30pm **Download** 0.74 Mbps  
**Upload** 0.37 Mbps

### 12. TOLMIE (wireless)

8:45am **Download** 1.59 Mbps  
**Upload** 0.04 Mbps  
6:15pm **Download** 1.09 Mbps  
**Upload** 0.03 Mbps  
9:45pm Failed to access  
- no service



MANSFIELD SHIRE

# Securing Our Digital Future

TELECOMMUNICATIONS ADVOCACY GROUP

MANSFIELD SHIRE



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