



City of Whittlesea

Municipal Telecommunications Accessibility

Final Report

Developed for City of Whittlesea

Prepared by CartGIS Pty Ltd
ABN 47 161 334 961

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PO Box 255
Nunawading 3131
Victoria Australia
Tel 03 9873 4444

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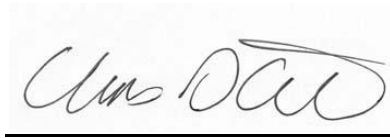
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3. Executive Summary

Mobile technologies are embedded in everyday life. Today, 89% of Australians own a smartphone¹ and the average Australian spends three hours every day using their smartphone - working, playing, connecting with family and friends. Australians also increasingly use smartphones for entertainment. Almost a quarter of smartphone users watch live TV on their phones at least once a week, and 23% stream film/TV series weekly.²

Mobile devices are also a vital tool for businesses and government. More than half of businesses report that mobile internet is important “to a major extent” for their activities.³

The technology continues to evolve quickly. Today smartphones are able to recognise fingerprints and voices, monitor heart rates, and even project augmented reality. And with the development of exponential technologies such as the internet of things (IoT), driverless cars, drones and virtual reality, mobile is increasingly becoming an integral part of society.⁴

The rapid adoption and evolution of mobile technologies comes with new challenges. There is ongoing debate about the possible overuse of mobile devices, particularly among young people, and the extent to which these devices connect us versus distract us. ⁴

For City of Whittlesea, the challenge of growing the economy through traditional infrastructure is now being exacerbated by the need to also facilitate the delivery of digital infrastructure to meet the expectations of industry, residents, community and visitors or risk being left on the wrong side of the digital divide.

City of Whittlesea engaged CartGIS to undertake independent mobile coverage testing and prepare a report to support an advocacy program aimed to target additional investment in the municipality and reduce the mobile black spots that impact the safety, welfare, and economic foundations of the municipality.

So how can the significant digital divide of this municipality be addressed? In a simplistic sense, the obvious question is to ask how many new mobile sites would it take to provide capital city comparative coverage? It would take significant new sites. The answer, however, is not that simple. Networks require local access (from the tower to the user) and connection to their core and the internet by backhaul. To improve from this current relatively low base, there is an urgent need to unlock significant funding in new and improved sites together with network improvements by all three major carriers.

The Federal Government’s Mobile Black Spots Program Mobile Network Hardening Program, Peri-Urban Mobile Program, all serve as levers available to address the “divide”. Through the initial rounds, one new site, at Eden Park, has been delivered or are committed for the City of Whittlesea.

¹ <https://www.communications.gov.au/departmental-news/australians-are-downloading-more-ever>

² <https://amta.org.au/wp-content/uploads/2019/12/2019-Impact-Report.pdf>

³ <http://www.abs.gov.au/ausstats/abs@.nsf/mf/8129.0>

⁴ Source: <https://www2.deloitte.com/content/dam/Deloitte/au/Documents/Economics/deloitte-au-economics-mobile-nation-2019-080419.pdf>

The testing of mobile coverage was undertaken to address the City of Whittlesea priority to provide an equitable communication network for all residents and businesses. This initiative is aimed at ensuring that communication coverage is resilient to meet emergency management requirements. The key findings are:

- **In total there were 170, 862 individual mobile coverage tests undertaken across the three carriers over 4G and 5G.**
- **The total testing distance was 1455 km and took 118 hours to complete.**
- **When combined across all carriers, based on drive testing, 20% of the network is excellent, 30% good, 41% is fair / poor. However, 10% of the network is unusable signal.**
- **Of the emergency markers tested, 8% had unusable or no coverage across all carriers. However, all Emergency Markers had at least fair or better quality of one carrier ensuring a triple zero call could be made.**
- **Of the other POI's tested, 5% had unusable or no coverage when looking at combined carrier coverage.**
- **Of the 1,455 km road tested there were 2,083 segments tested, 20% had unusable or no coverage, meaning that successfully making a triple zero call in these areas would be problematic.**
- **Of the other bus stops tested, less than 1% had unusable or no coverage.**

Based on this risk profile of climate change and disasters⁵, it is encouraged that City of Whittlesea undertake direct advocacy to ensure critical communications networks are hardened, to ensure power resilience, backhaul links are provided underground or utilise resilient wireless technologies. At a minimum, cellular network, in remote and vulnerable communities, should be strengthened and hardened to ensure that communities have reliable access to triple zero calls.

In addition, NBN and other fixed broadband networks, like Opticom, need to support power resilience to vulnerable communities to ensure the City of Whittlesea has an "always connected" community. Fixed broadband networks need to ensure power resilience and power backup is provided at critical infrastructure locations, such as nodes, point of interconnect and distribution points. Residence and businesses using VoIP telephony should ensure they have power backup on their modems and network devices to ensure connectivity during power outages.

⁵ AFAC Climate Change and Disasters, Key Messages and Resources | November 2020, P 5

4. Recommendations

Shortlisting priority locations where there are so many potential candidates is extremely difficult and will need active local involvement to shortlist based on local priorities.

The following framework and targets have been used as a filter to inform an initial priority list and associated proposed actions.

1. Mobile Black Spot Program

- a) Residential and business communities not currently serviced “adequately” by at least one cellular telecommunication carrier with usable network quality – target 100%. Locations include:
 - Eden Park
 - Beveridge
 - Donnybrook
 - Humevale
 - Wollert
- b) Tourism locations and Roads include:
 - Epping Road, Beveridge
 - Glenburnie Road, Beveridge
 - Grants Road, Woodstock
 - Humevale Road, Humevale
 - Jana Road, Beveridge
 - Ridge Road, Humevale
 - Whittlesea-Yea Road, Humevale
- c) Selected national parks and forestry sites. Locations include:
 - Yan Yean Reservoir
- d) Key sites in times of natural disaster – floods and fires. Locations include:
 - Eden Park
 - Beveridge
 - Humevale
 - Refer to other tourism locations (1.c)
- e) Identify acceptable distances without any mobile coverage on road networks e.g. target mobile coverage minimum every 10 kms.

2. Mobile Black Spot Program (MBSP) Policy and Advocacy

- a) Seek the continuation and expansion of the MBSP
- b) Consider ways to influence both criteria and connectivity mechanisms of the MBSP:
 - Criteria - The criteria and target for the MBSP vary round to round. Earlier rounds (1-2) have led to some areas with comparatively higher levels of coverage, achieving funding reflective

of providing an even spread of spending nationally on an eligible electorate basis. Electorates are based on population, which may impact City of Whittlesea disproportionately, as the municipality is in a significant development and rapid growth phase. The current population and demographic data, on which the program decisions are made, may not represent the actual figures when the new or upgraded towers are delivered, due to this rapid growth and the length of the program application cycles. Later and more recent rounds have focused on funding sites to promote regional and remote Australia. The criteria do not have linkages to resilience of mobile telecommunications infrastructure, in that it will not fund blackspots on the need for 'site hardening' alone.

- Connectivity mechanisms – Currently, the MBSP supports macro towers and small cell sites to be delivered by a carrier. The City of Whittlesea municipality covers a significantly large geographic area, particularly for a metropolitan area, with residents located across many regional suburbs and townships. So while number of base stations and funding levels are distributed evenly by population, allocation doesn't necessarily address inequity across regional areas. There are several ways of adapting the program to deliver greater coverage using changes to policy/legislation or methods of delivering connectivity. If City of Whittlesea adds its voice to the national dialogue, significant advances may be made for the region without significant cost.

3. Carrier network upgrades – power resilience

The recent storm events have characterised the risk to critical communications network. The City of Whittlesea should:

- a) Apply for site hardening under the Mobile Network Hardening Program.
- b) Work with carriers to seek power resilience upgrades at critical base stations and backhaul sites.
- c) Work with power distribution providers to ensure that critical base stations and backhaul sites are priorities for power distribution and resiliency.

Hardening tower sites primarily involves three actions: installing backup generators; incorporating backhaul that isn't easily disrupted, such as microwave links; and stockpiling portable sites.

4. Carrier network coverage enhancements

The City of Whittlesea should:

- d) Apply for site hardening under the Peri-Urban Mobile Program.
- e) Work with carriers to seek coverage enhancements in areas of poor or unusable coverage areas.

5. Emergency internet provision

- a) Work independently of the carriers to provide.
 - Community-based internet services for vulnerable communities, at designated community locations.
 - Community-based internet services for vulnerable communities, at designated neighbourhood safer places.

- These services would need to be “always available” to ensure community use during an emergency. These services should be limited to accessing emergency sources only. These services could use satellite connectivity services like NBN SkyMuster or Starlink and would need backup power to withstand any power outages that the emergency or disaster may cause.
- b) Work with state and federal government, including the Strengthening Telecommunications Against Natural Disasters program to ensure the provision of internet services (e.g. SkyMuster satellite) for relief and recovery purposes at designated facilities.

6. Consider the development of a Strategic Action Plan

Successful regions and municipalities in Australia have used mobile coverage reporting to inform and implement a long-term strategic action plan covering the five key areas below.

- a) Target proportionate Mobile Black Spot Program Funding commensurate with the extensive black spots in the municipality. This involves sustained policy prioritisation and active political advocacy with federal and state governments
- b) Partner with the three carriers to identify their priorities and City of Whittlesea needs, focusing on:
 - Mobile Black Spot Funding locations
 - Mobile carrier backhauls resilience (multiple different bearers or link paths)
 - Telecommunications site power resilience
 - Mobile carriers
 - NBN and other fixed broadband service providers
 - Local access network upgrades
- c) Partner with your regional industry and businesses to increase awareness, skilling, and demand for digital connectivity.
- d) Facilitate digital connectivity via emerging carrier and non-carrier systems⁶ that deliver wider coverage for the IoT and devices.
- e) Build and maintain local capability to underpin the strategic action plan. Invest in relevant experienced staff to provide a consistent core officer level and capacity to build relationships and deliver outcomes. Maintain regular updates to the current baseline to inform and drive the evolving priorities. Encourage communities and industry to undertake localised testing to build out the coverage picture for their own area.

⁶ Non-carrier systems are provided by parties that are not considered Telecommunications carriers. These may be private providers or public cooperatives.

7. Community education and resilience campaigns

Education is an important step to ensure telecommunications accessibility and community resilience. Community education, including small and medium business, should focus on the following areas.

- a) Awareness of the available NBN fixed broadband options in each locality.
- b) Awareness of how NBN fixed broadband technology differs.
- c) Awareness of the implications of power outages on NBN fixed broadband technology services and the resilience and/or redundancy measures the community should have in place.
- d) Education of the technological difference between NBN fixed broadband speed and Wi-Fi speed. Ensuring that the community understands the limitations that some Wi-Fi routers can have on network and speed performance.
- e) Awareness that the 5G rollout will not be directly linked to coverage enhancement in the City of Whittlesea, but rather improve network quality and performance.
- f) Awareness that the 5G mobile phone towers (base stations) have a smaller coverage footprint than that of 4G sites.
- g) Awareness of how bushfire smoke and certain climatic conditions can affect fixed wireless and SkyMuster satellite services and the resilience and/or redundancy measures the community should have in place.
- h) Providing power (battery) back-up to vulnerable members on the communication reliant on fixed broadband services.
- i) Providing community connectivity locations (free Wi-Fi) where communication can access internet.

5. Terms and Abbreviations

Term	Definition
3G	Short for third generation, is the third generation of wireless mobile telecommunications technology
4G	Is the fourth generation of broadband cellular network technology, succeeding 3G
5G	The fifth-generation cellular network technology
AMTA	Australian Mobile Telecommunications Association, the peak industry body representing Australia's telecommunications industry, including network operators, service providers, manufacturers, retailers and suppliers.
Backhaul	Carriers refer to the connection from local access (i.e. Mobile tower) to their core network backhaul. It is the link (fixed or wireless) from the mobile phone tower to other towers on the main network.
Black Spot	Term used to define where no signal is available for a carrier or carriers
CartGIS	CartGIS Pty Ltd, consultants
Carrier	Telecommunications carriers own network units that deliver carriage services including transmission infrastructure, cabling, wireless networks and satellite facilities. Under the Telecommunications Act 1997 they must be licenced with the Australian Communications and Media Authority.
DriveCell	Name of CartGIS' independent mobile network application for Android
GPS	Global positioning system
GSM	Global System for Mobile Communications
Hardening	Hardening tower sites primarily involves three actions: installing backup generators; incorporating backhaul that isn't easily disrupted, such as microwave links; and stockpiling portable sites.
Hot spot	Term used to describe a location where a mobile carrier network has exceptionally high network performance for latency, download and upload scores.
IoT	Internet of Things. Describes the network of physical objects "things", including sensors, software, and other technologies that is used for the purpose of connecting and exchanging data with other devices and systems over the Internet.
Latency	Network delay, a measure of the time delay required for information to travel across a network
LTE	Long-Term Evolution, a telephone and mobile broadband standard
NBN	(Australia's) National Broadband Network
MCNO / MNO	Mobile [carrier] network operator. In Australia, these are Telstra, Optus and Vodafone (TPG).
Mobile towers	Major towers for mobile infrastructure including local access only or local access and microwave backhaul
MBSP	Mobile Black Spot Program a funding program managed by the Australian government to improve mobile coverage in non-metro Australia
Micro Cells or Small Cells	References smaller sized mobile infrastructure site for local access. Coverage is also typically smaller.
MVNO	Mobile Virtual Network Operator
Non-carrier	Non-carrier are networks and services provided by parties that are not considered Telecommunications carriers. These may be private providers or public cooperatives.
NPT	Network Performance Test. Mobile networks are often measured in terms of latency, download speed and upload speeds. In this report, NPT's capture the date time and locations as GPS coordinates together with the three network measures to capture and illustrate performance at that point in time.
Ping	Ping test is used to measure latency on a network
Power redundancy	When electrical equipment has an alternative or backup power source. This may be automatically or manually activated when required. This may include, but not limited to generators or batteries.
Power resilience (Hardening)	Electric power resilience addresses preparedness of the system and its ability to cope with various hazards that can disrupt electricity. This may include having sufficient battery back up to run during a mains power outage. Improving power resilience is also known as hardening.
RSSI	Received Signal Strength Indicator. RSSI is a measurement of the Radio Frequency / Radio Wave power present in a received radio signal at the mobile phone.
City of Whittlesea	City of Whittlesea or municipal boundary
Wireless	Wireless communication is the transfer of information or power between two or more points that are not connected by an electrical conductor

6. Introduction

Access to quality connectivity for mobile phone coverage and internet services has become a critical feature of contemporary communities around the world.

The COVID-19 pandemic has demonstrated the critical importance of the use of digital economy and the use of these underlying technologies, not only in Australia, but worldwide. The pandemic has resulted in the shutdown of schools, industry, businesses, services, retail, and hospitality nationally. This has required the rapid adoption of and pivoting to, digital technologies for business, government, industry, education, and medical services to facilitate remote practices and virtual face-to-face meetings.

Notwithstanding the rapid increase of connectivity for the pandemic, mobile connectivity, for phone calls and broadband, has become an engrained part of the community for well over a decade now. Connectivity, particularly cellular, is now regarded as a utility, with the expectation of uniform coverage and connectivity by residential, business, industry and public safety users and consumers. This user expectation has transformed from a 'want' to a 'need' as all market sectors embrace the rapid development of new technologies and require faster connectivity options.

The expectation has fuelled an economic requirement for the telecommunications carriers to provide coverage and capacity to meet the population requirements, often favouring the metropolitan and urban centres. This has resulted in inequities for regional and rural areas of Australia that are disadvantaged by the 'Digital Divide'⁷. There are virtually no mobile coverage black spots in our capital cities, or these locations are often first to experience the rapid deployment of the latest generation of connectivity. The regional areas however are considered to be on the wrong side of the 'Digital Divide'. Mobile phone black spots are significantly more prevalent in regional and remote Australia, with regional townships often having mobile phone technology a generation or two behind. The Figure 1 below, – Digital Divide for Australians], sourced from telecommunication carrier and Department of Communications data, highlights this digital divide for regional, rural, and remote Australians. This digital divide will be further exacerbated on 28th October 2024 when both Optus and Telstra turn off their 3G services.

⁷ A Digital Divide in Rural and Regional Australia?, Dr Jennifer Curtin
https://www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Library/Publications_Archive/CIB/cib0102/02CIB01

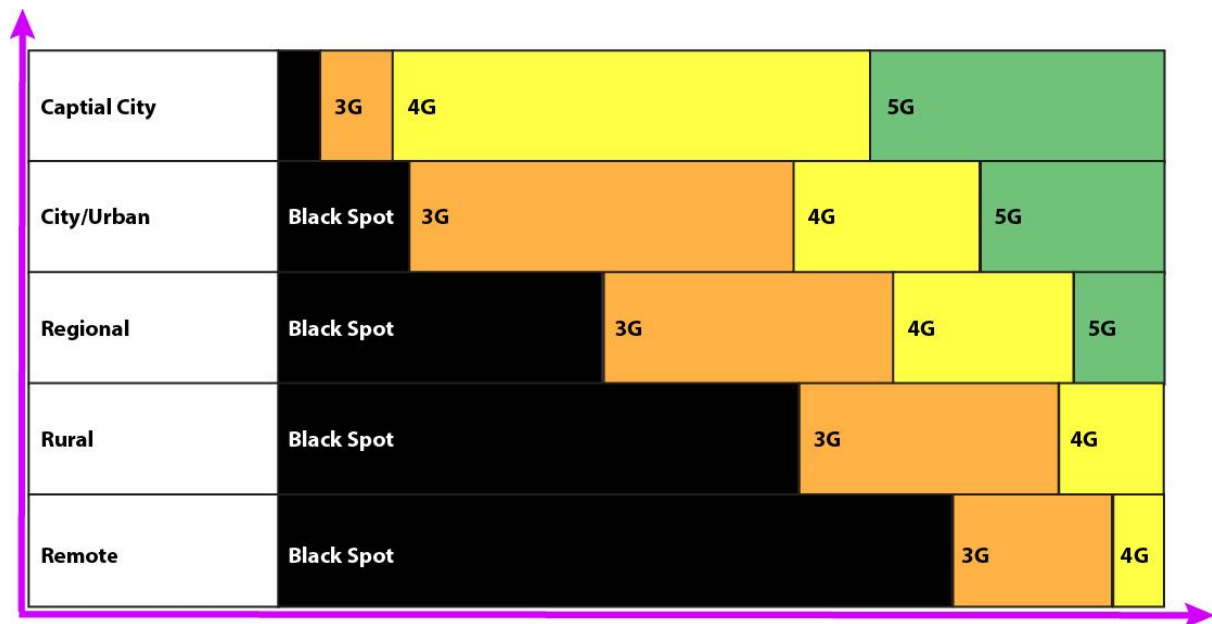


Figure 1 – Digital Divide for Australians⁸

According to the ACCC, as of December 2023, there were about 35.5 million mobile services in Australia, and an estimated 24 million smartphones. As users, we are downloading more than ever on mobiles. In the six months ending December 2023⁹, 13.9 mullion terabytes were downloaded with ands increase of 14% in the previous year.

For regions like City of Whittlesea, the opportunity is to find ways to partner with the three privately owned carriers to reduce the extent of Black Spot coverage. There are also opportunities to having existing sites upgraded and coverage expanded with current generation technology. Another avenue to improve coverage is to access current and future rounds of the federal Mobile Black Spot Funding Program.

For local government, managing the municipality in times of disaster or emergency, to providing a positive experience for visitors and delivering greater productivity for businesses, are a requirement for successful regions.

City of Whittlesea has engaged CartGIS to undertake independent mobile coverage testing and prepare a report including qualitative and quantitative supported research evidence. The report is aimed to support City of Whittlesea with advocacy when working with state and federal authorities to target initiatives, programs, and grants to enable investment in the municipality, aimed at reducing the mobile black spots and improving network resilience. The holistic aim of supporting these advocacy programs will ensure that best possible safety, welfare, and economic outcomes are met within the municipality.

Mobile phone technology and connectivity has rapidly developed in 25 years from sparse coverage aimed at in vehicle transceivers, servicing niche users, to comprehensive access and coverage for all. The demand for data is increasing at an exponential annual rate, which is facilitated by evolution of

⁸ Sourced from telecommunications carrier data and the Department of Communications.

⁹ <https://www.accc.gov.au/by-industry/telecommunications-and-internet/telecommunications-industry-record-keeping-and-reporting-rules/internet-activity-record-keeping-rule>

4G and 5G technologies. The Figure 2 below, - The evolution of mobile networks], shows the rapid increase in mobile network technology.

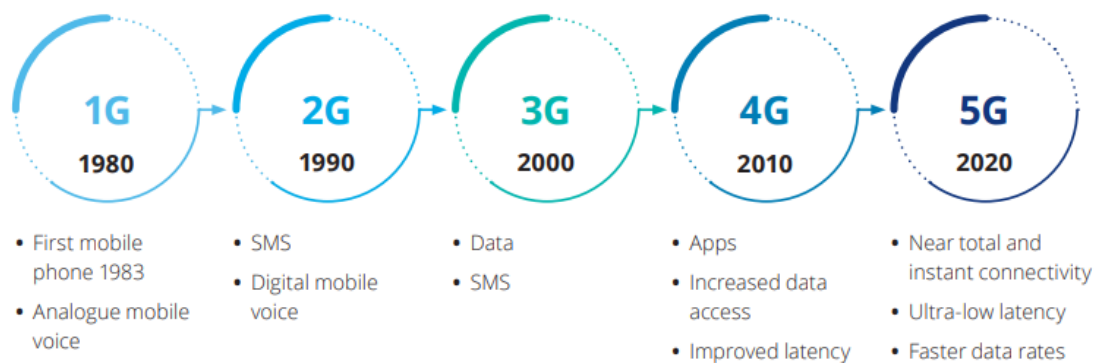


Figure 2 - The evolution of mobile networks

The importance of ensuring coverage and capacity within cellular networks is paramount as the demand for data doubles each year¹⁰. Published statistics on the quantity of mobile towers is limited, however as of 31 January 2023 there were a total of 25,892 mobile sites around Australia¹¹ between three major carriers: Telstra, Optus and TPG Vodafone. Telstra have the highest number of sites, accounting for over 44% of the total.

The need to look beyond mobile is ensuring that other broadband service providers are capable of providing reliable internet and data services. The main provider of these services in Australia is the NBN.

Australia's National Broadband Network was conceived in 2009 by the Labor Commonwealth Government. Since then, it has changed to ultimately what has been implemented as the final resolution. The original concept for the NBN was for near universal fibre to every premise in Australia. As the network build and implementation progressed the outcomes changed significantly. The earlier rollout saw fibre to premises as the single type of connection to the network, however this changed to a wide variety of other technologies later in the rollout due to the perceived cost of running Fibre to the Premise for everyone.

The original 2009 NBN aim of universal fast broadband speeds has been hampered by a "multi-technology mix" that has been adopted throughout the change of Governments during the NBN rollout time frame. This "multi-technology mix" approach has seen a gross inequity of the speeds delivered to residential and business customers throughout Australia¹².

In December 2020, after eight years, the Commonwealth Government declared the NBN rollout complete.¹³ Under the National Broadband Network Companies Act 2011, the NBN needed to be declared complete prior to December 31, 2020, or an extension needed to be made. It is also a

¹⁰ <http://www.amta.org.au>

¹¹ Mobile phone base stations in Australia in 2023, by provider,
<https://www.accc.gov.au/system/files/Mobile%20Infrastructure%20Report%202023.pdf>

¹² Source: <https://techexec.com.au/?p=891>

¹³ <https://www.paulfletcher.com.au/media-releases/nbn-declared-built-and-fully-operational>

necessary step before NBN Co can be privatised – although the government has stated it will not consider this during the current term of Parliament¹⁴. During this time, it is reported that the number of premises able to connect to the NBN is over 11.86 million premises.

In addition to the NBN, there are other broadband providers able to service residential and business customers. For the purpose of this report, these have been limited to providers that are reasonably achievable, and therefore have excluded technologies like leased or dark fibre, satellite services (other than SkyMuster and Starlink) or other infrastructure op type products.

¹⁴ Source: <https://www.gizmodo.com.au/2020/12/australian-government-announces-the-nbn-is-complete/>

7. Telecommunications Networks Background

7.1 NBN

The National Broadband Network (NBN) is an Australia-wide project funded by the Federal Government to provide all homes and businesses with a mandate for fast, reliable connection to the internet.

The NBN “multi-technology mix” connection types and the break-down of how many Australian homes and businesses use them, is listed below¹⁵.

- Fibre to the Premises (FTTP) - approx. 19%
- Fibre to the Node (FTTN) / Fibre to the Building (FTTB) - approx. 40%
- Fibre to the Curb (FTTC) - approx. 12%
- HFC Cable (HFC) - approx. 23%
- Fixed Wireless - approx. 4%
- Satellite / Sky Muster - approx. 1.5%

The following information has been sourced from NBN Co website as well as the Australian Registered Cabler Association. Images are provided from the NBN Co website.

Fibre to the Premises (FTTP)

FTTP is where fibre is run into the premise and terminated on a device supplied by NBN called Network Termination Device (NTD for short). The NTD is also referred to as the NBN Connection box. Each connection allows up to two different phone service providers and 4 different data service providers.

There are two sorts of FTTP rollouts. One is in new estates where fibre is the only technology installed to provide telephone and internet services to every home. The other one is in existing suburbs. Here the fibre being installed piggybacks on the existing copper telephone network.

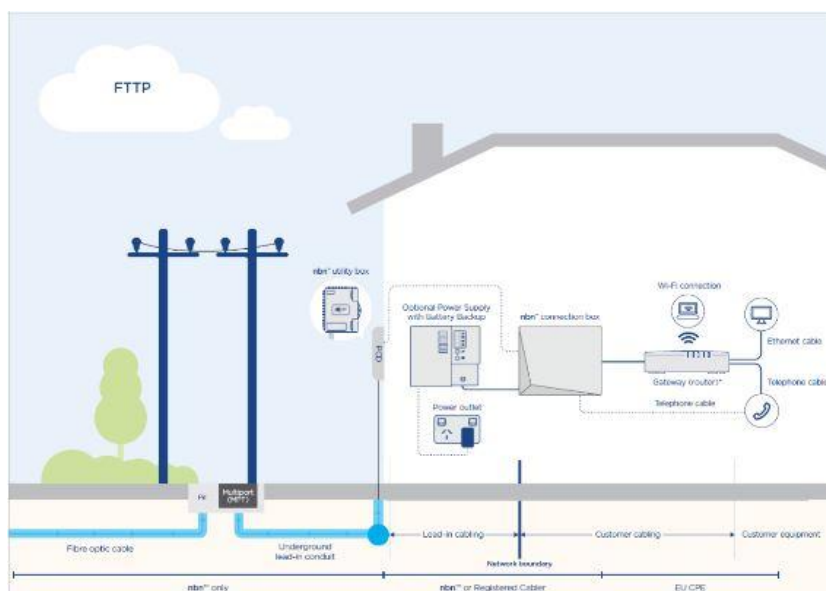


Figure 3 – FTTP

¹⁵ <https://www.nbnco.com.au/blog/features/nbn-101>

Fibre to the Building (FTTB)

FTTB is where fibre is installed to a building or apartment complex. It terminates at a node that converts the optical signal into one suitable for the existing copper cable in order to extend the broadband service to all apartments or offices.

The technology that helps this occur over the copper telephone wire is called VDSL, a faster version than the more common ADSL broadband. The VDSL modem will be very similar to the existing ADSL modems.

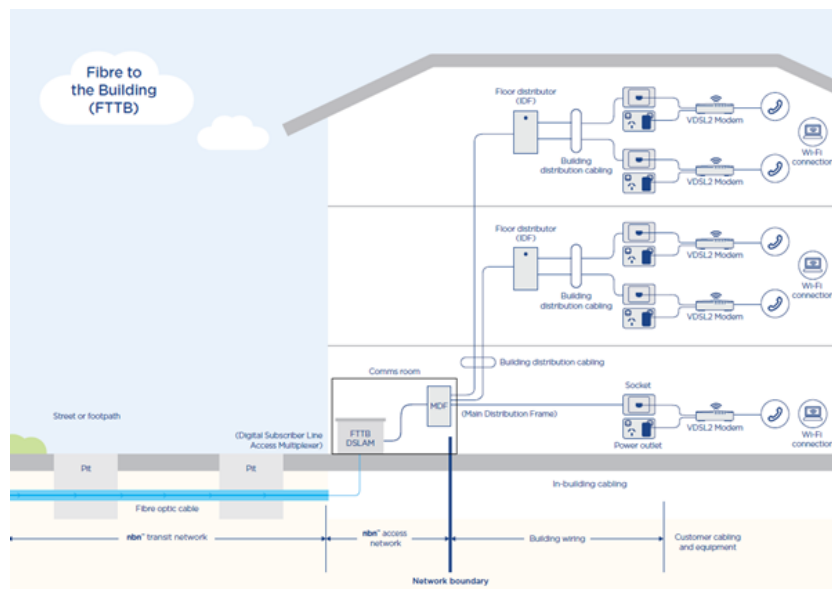


Figure 4 – FTTB

Fibre To the Node (FTTN)

FTTN is like FTTB except the node is installed outside the premises so it can service multiple premises. The ideal location would be next to an existing telecommunications pillar.

The technology from the node to the Multiple Dwelling Unit (apartment building, townhouses, etc) or Single Dwelling Unit (freestanding house) is VDSL. The connection and installation inside the dwelling will be the same as for ADSL. The node needs to be reasonably close to the dwelling, so the copper length is kept as short as possible.

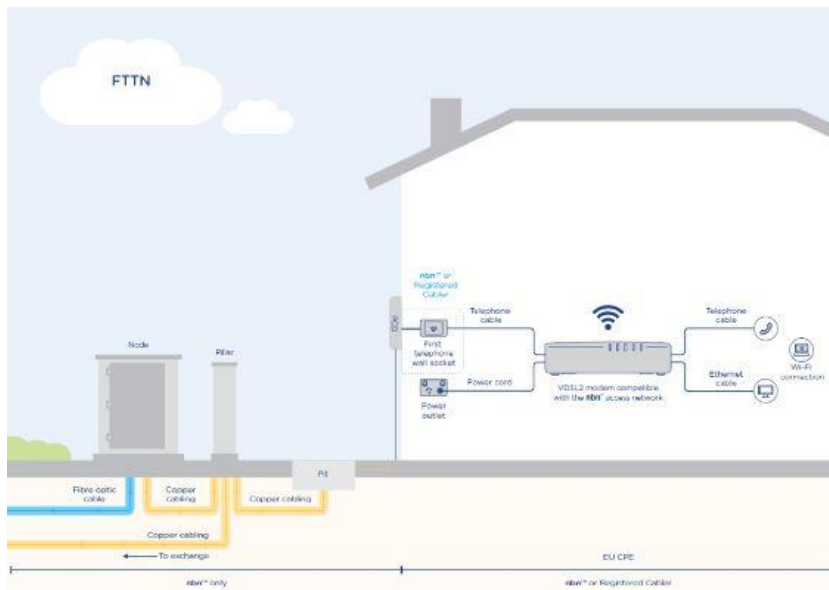


Figure 5 – FTTN

Fibre to the Curb (FTTC)

FTTC is the latest technology available bringing fibre optic cable all the way to the edge of the premises. The connection uses the existing copper lead into the building.

A FTTC connection is used in circumstances where fibre is extended close to your premises, connecting to a small Distribution Point Unit (DPU), generally located inside a pit on the street.

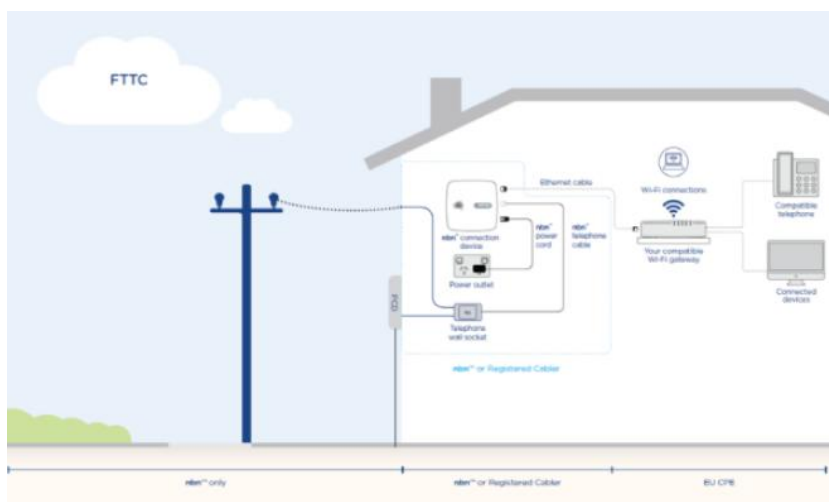


Figure 6 – FTTC

Hybrid Fibre Coaxial (HFC)

HFC is where high speed broadband is delivered over the existing pay TV network so the installation inside the home is the same as the existing cable modem. Using the latest technology, it is possible to deliver both broadband and telephony from the cable modem.

NBN will connect a PCD (Premises Connection Device) on the outside of the premises and then install a HFC cable wall outlet on the inside of the premises where they will connect the Network Termination Device.

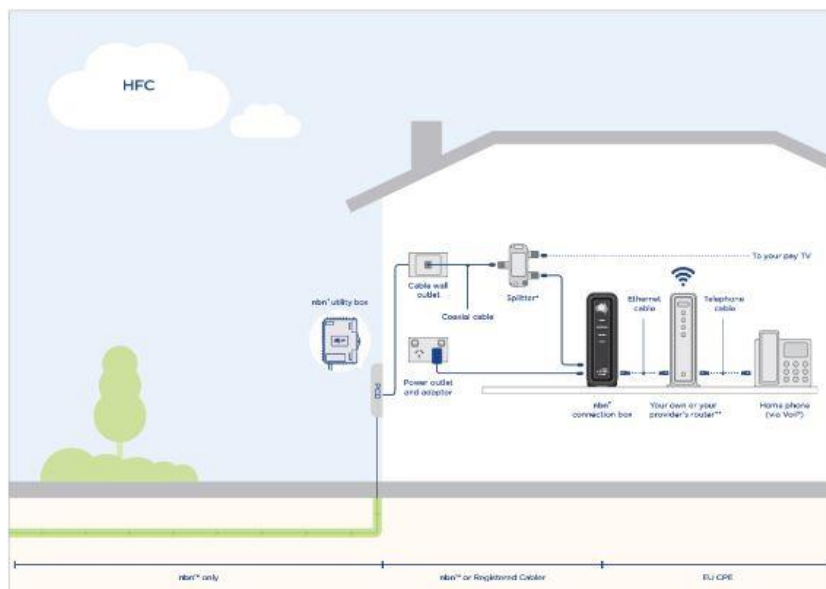


Figure 7 – HFC

Fixed Wireless

Fixed wireless is where NBN will install radio base stations like the ones used for mobile phones and then install an antenna and a fixed modem (NTD) in the premises. This NTD is only for broadband service, the telephony stays on the existing copper wires for the foreseeable future.

This connection is typically used in circumstances where the distance between premises can be many kilometres. Data travels from a transmission tower located as far as 14 kilometres, to an NBN outdoor antenna that has been fitted to the premises by an approved NBN installer.

Satellite / Sky Muster

The Sky Muster™ satellite service delivers the NBN network to homes and businesses in regional and remote Australia, via two satellites. The NBN will install a satellite dish connected to an NTD. Like fixed wireless this NTD will provide broadband services only.

It is important to note that NBN customers do not have the ability to select what technology they want to connect to the NBN with. This is decided by the NBN, dependant on what technology is available at the location of the premise.

NBN Plans

NBN plans are offered on four different speed tiers with an additional two offered for Fibre to the Premises customers.

Plans are offered from a telecommunications retailer and not directly from the NBN itself. The NBN are a network provider and wholesaler.

Speed Tier	Maximum Speed	Evening Speed	Percentage of Total National Subscriptions ¹⁶
NBN 12	12Mbps	7Mbps	8%
NBN 25	25Mbps	15Mbps	14%
NBN 50	50Mbps	30Mbps	61%
Wireless Plus			3%
NBN 100	100Mbps	60Mbps	13%
<i>Additional Fibre to the Premises</i>			
NBN 250	250Mbps	215Mbps	> 1%
NBN 500	50Mbps	225Mbps	> 1%
NBN 1000	1000Mbps	350Mbps	> 1%

Table 1 – Available NBN Plans

The speeds in the table above are the maximum speeds you can get on these plans. However, the actual speeds obtainable at home or business will still be dependent on:

- The chosen NBN plan and provider.
- Congestion during peak hours (this is what is meant by 'evening speeds').
- Education of the technological difference between NBN fixed broadband speed and Wi-Fi speed. Ensuring that the community understands the limitations that some Wi-Fi routers can have on network and speed performance.

A list of NBN service providers can be found at

Residential - <https://www.nbnco.com.au/residential/service-providers>

Business - <https://www.nbnco.com.au/business/ict-channel-program/working-with-a-business-nbn-accredited-adviser/find-a-business-nbn-accredited-adviser>

¹⁶ <https://www.accc.gov.au/by-industry/telecommunications-and-internet/telecommunications-industry-record-keeping-and-reporting-rules/internet-activity-record-keeping-rule/previous-reports>

7.2 OptiComm

Unlike the Government-run nbn, Opticomm is a private network wholesaler that services mainly housing estates around Australia. Internet service providers can then buy bandwidth on the wholesale network and provide their own plans. Often Opticomm will brokers contracts to delivery internet to new housing estates. Confusion is often created by both residents and developers, who may refer to the Opticomm service as 'nbn'. Although it's the same, high quality broadband technology, it's not the National Broadband Network and is completely separate.

In the City of Whittlesea, Opticomm provides a fibre to the premises (FTTP) connection. Opticomm mainly provides connectivity into new estates in the following areas. Please see Appendix 23 – Opticomm Fibre network coverage for a location map.

- Donnybrook
- Wollert
- Doreen
- Bundoora

Fibre to the Premises (FTTP)

FTTP is where fibre is run into the premise and terminated on a device supplied by Opticomm called Network Termination Device (NTD for short). The NTD is also referred to as the NBN Connection box.

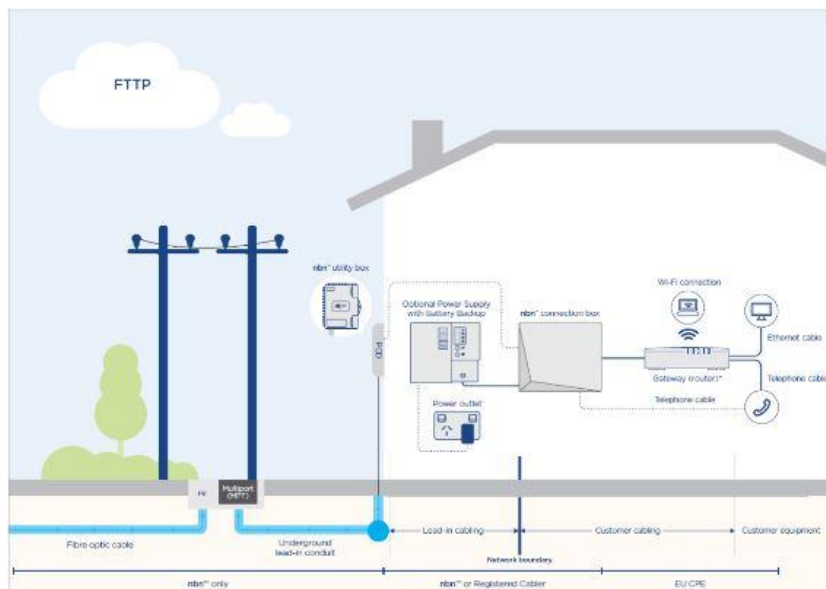


Figure 8 – Opticomm FTTP

Opticomm Plans

OptiComm has the same speed structure as the nbn, with several different speed tiers available. The most common download/upload speeds in megabits per second (Mbps) are:

Speed Tier	Maximum Speed	Upload Speed	Percentage of Total National Subscriptions
NBN 12	12Mbps	1Mbps	unknown
NBN 25	25Mbps	5Mbps	unknown
NBN 50	50Mbps	20Mbps	unknown
NBN 100	100Mbps	40Mbps	unknown

Table 2 – Available NBN Plans

7.3 Cellular (Mobile) Telecommunications

There are three mobile telecommunications providers (carriers) in Australia: Telstra, Optus, and Vodafone. Effective 29 June 2020, Vodafone Hutchison Australia Pty Limited was renamed TPG Telecom Limited. In this report, the name TPG Vodafone is used.

There is also a vast array of Mobile Virtual Network Operators (MVNO). MVNO's do not own the network as such but resell services from the main carriers directly to customers. There is a growing list of these providers. The estimated market share of these carriers is as shown in Figure 9.¹⁷

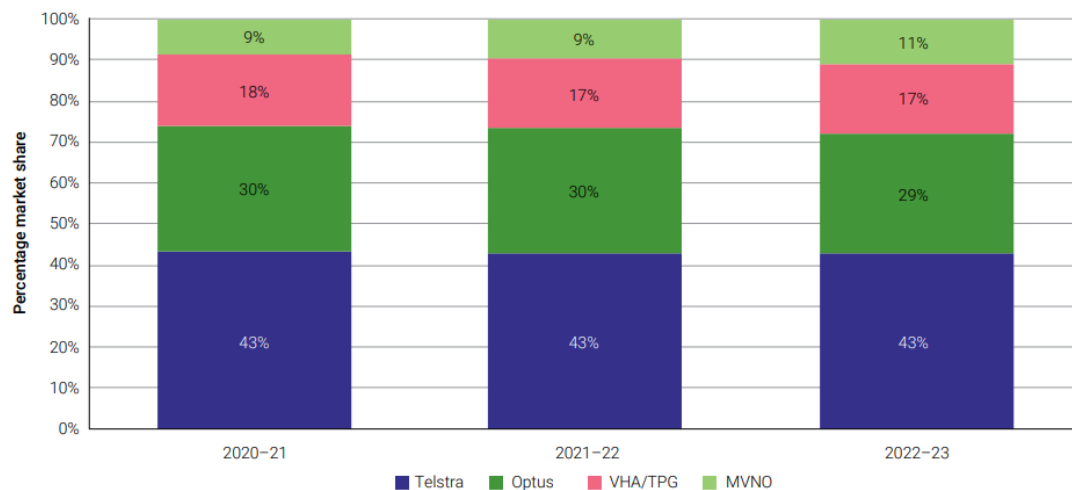


Figure 9 - Australian Mobile Market Share 2023

It is important to understand the major differences between Australia's three carriers and the technology they use. Mobile phone technology uses radio waves to carry data and voice. These radio waves reside in different frequency bands depending on the generation of the mobile phone technology (i.e. 3G, 4G or 5G). In general terms, the higher the frequency the faster and greater the data throughput. Newer technologies like 5G use more advanced modulation, which permits faster and greater data throughput than older generations on the same frequency. Furthermore, the higher the frequency the less coverage footprint it provides, and the less suitability for highly vegetated and mountainous areas. It is a fine balancing act for the carriers to engineer coverage to meet differing geographic environments.

Since 2019, Australia's mobile network operators have been preparing to switch off their 3G networks to boost the capacity, speed and reliability of their 4G and 5G networks. Telstra recently announced that it will delay its 3G network switch off until 31 August 2024. Optus is planning to switch off its 3G network from 1 September 2024. TPG Vodafone has already switched off its 3G network.¹⁸

While it is well-understood that the 3G switch offs impact 3G devices, some 4G devices are also impacted. Some 4G devices may be unable to make any voice calls once a 3G network is switched off. There is also a subset of 4G devices that may continue to operate for voice calls and data but will not be able to make Triple Zero calls. This subset of 4G devices are of most concern because

¹⁷ <https://www.accc.gov.au/by-industry/telecommunications-and-internet/telecommunications-industry-record-keeping-and-reporting-rules/internet-activity-record-keeping-rule/previous-reports>

¹⁸ <https://www.infrastructure.gov.au/media-communications-arts/phone/mobile-services-and-coverage/3g-network-switch>

customers will mistakenly believe that their device is not affected by the switch off, until they try to call Triple Zero in an emergency. Older 4G devices and devices that are purchased overseas are particularly at risk.

As a result of the 3G switch off, no 3G services have been included in this reports.

Network	Technology
Telstra (3G)	Based on the GSM. Uses the frequency band of 850MHz.
Telstra 4G	Uses the frequency band of 1800MHz. This network provides 4G LTE data only services for most major cities and towns.
Telstra 4GX	Uses the frequency band of 700MHz. This network provides 4GX in all capital CBDs and selected suburban and regional areas. Better suited to regional areas than Telstra 4G.
Telstra Resellers (MVNO's)	Telstra MBNO's have full access to the 4G and 4GX network and some have access to the 5G network, refer to Table 4 - Mobile Telecommunications MVNO's.
Optus 3G	Based on the GSM. Operates on a dual frequency band of 900MHz and 2100MHz. The 2100MHz network provides 3G services to metro areas, and 900MHz provides 3G services to regional/rural areas.
Optus 4G	Currently operates on a dual frequency bands 1800MHz and 2300MHz. Most regional areas use the 1800MHz band.
Optus Resellers (MVNO's)	For the following networks please refer to Table 4 - Mobile Telecommunications MVNO's.
Vodafone 4G	Operates on a three frequency bands, 850MHz, 900MHz and 2100MHz. Most metro areas are covered by 850MHz, with suburban and regional towns covered by 2100MHz, and 900MHz used for remote areas and townships.
Vodafone Resellers (MVNO's)	For the following networks please refer Table 4 - Mobile Telecommunications MVNO's.
5G	Telstra, Optus and TPG Vodafone have commenced rollout of 5G networks. Like 4GX and 4G+, this is a data only service and voice calls are made over data. Telstra has the greatest 5G coverage.

Table 3 - Mobile Telecommunications Carriers and networks

The following is a list of all the MVNO's that operate in Australia, along with their host network. This list was current as of December 2023.

Company	Host network	Website
ACN	Vodafone	acnpacific.com.au
ALDImobile	Telstra	aldimobile.com.au
amaysim	Optus	amaysim.com.au
Aussie Broadband	Optus	aussiebroadband.com.au
Barefoot Telecom	Telstra	barefoottelecom.com.au
Bendigo Telco	Optus	bendigotelco.com.au
Better Life Mobile	Telstra	betterlifemobile.com.au
Belong Mobile	Telstra	belong.com.au/mobile
Boost Mobile	Telstra	boost.com.au

Catch Connect	Optus	catchconnect.com.au
Circles.life	Optus	www.circles.life/au
CMOBILE/BLUE PLANS	Telstra	cmobile.com.au
CMOBILE/RED PLANS	Vodafone	cmobile.com.au
Coles Mobile	Optus	www.coles.com.au
Commander	Optus	commander.com
Dodo Services	Optus	dodo.com
E.Tel	Optus	https://www.etel.com.au
Exetel	Optus	exetel.com.au
Felix Mobile	Vodafone	felixmobile.com.au
Fibre2air	Optus	fibre2air.com.au
Flexiroam	Vodafone	flexiroam.com.au
Gomo	Optus	gomo.com.au
gotalk	Vodafone	gotalk.com.au
Hello Mobile	Vodafone	hellomobile.com.au
iiNet	Vodafone	iinet.net.au
innoTel	Optus	innotel.com.au
innoTel	Vodafone	innotel.com.au
Internode	Vodafone	internode.on.net
iPrimus	Optus	iprimus.com.au
KISA Phone	Vodafone	kisa.com.au
Kiss Mobile	Vodafone	kissmobile.com.au
Kogan Mobile	Vodafone	koganmobile.com.au
Lebara	Vodafone	lebara.com.au
Loop	Optus	None
LYFmobile	Telstra	www.lyfmobile.com.au
Lycamobile	Telstra	lycamobile.com.au
Mate	Telstra	letsbemales.com.au/mobile
Moose Mobile	Optus	moosemobile.com.au
MyOwn Tel	Telstra	myowntel.net.au
Revolution Telecom	Vodafone	revtel.com.au
Reward Mobile	Vodafone	rewardmobile.com.au
Southern Phone	Optus	southernphone.com.au
SpinTel	Optus	spintel.net.au
Startel	Optus	startel.net.au
TeleChoice	Telstra	telechoice.com.au
Think Mobile	Telstra	thinkmobile.com.au
Think Mobile	Vodafone	thinkmobile.com.au
Vodafone	Vodafone	tpg.com.au
Truphone	Optus	truphone.com/au
Vaya Mobile	Optus	vaya.net.au
Woolworths Mobile	Telstra	mobile.woolworths.com.au
Yomojo	Optus	yomojo.com.au
Zero	Telstra	https://www.zeromobile.com.au

Table 4 - Mobile Telecommunications MVNO's

7.4 Other Providers

In addition to connectivity from mobile telecommunications providers and the NBN, the other viable options for residential or small to medium business in City of Whittlesea are:

- Wireless Internet Service Providers (WISPs), and
- Starlink.

WISPS

Throughout Australia there is a growing development of private, non-NBN fixed wireless internet providers, who operate their own independent Wireless ISP networks.

WISPs use similar technology to NBN fixed wireless. Fixed wireless is where the service provider will install radio base stations like the ones used for mobile phones and then install an antenna and a fixed modem (NTD) in the premises. This NTD is only for broadband service, the telephony stays on the existing copper wires for now.

The following link contains information about these independent providers, not about the NBN Fixed Wireless service, or the Retail Service Providers (RSP) utilizing the NBN network.
<https://birraus.com/alternative-fixed-wireless-providers/>

Starlink

Starlink is a satellite internet system owned by SpaceX that hopes to deliver high-speed internet across the globe. Starlink was originally pitched toward areas where connectivity has been challenging, such as rural and regional Australia.¹⁹ However recently Starlink has become a ubiquitous ISP in Australia. It is licenced by the Australian Communications and Media Authority for the entirety of Australian territories.

The major difference between Starlink satellite and traditional satellites is that they're 60 times closer to Earth. This means Starlink can deliver faster, more responsive connectivity than typically expected from a satellite internet service.

Starlink's download speeds should range between 20Mbps and 100Mbps, with a latency of 25ms to 50ms and uploads speeds up to 20Mbps. Priority tier plans for businesses and power users are advertised as capable of speeds of 220Mbps. Current Starlink plans are \$139 per month. There is an upfront \$599 in hardware fees, and \$30 in shipping and handling. Pre-order requires a fully refundable deposit of \$139. The service relies on the self-installation of the satellite dish using Starlink's smartphone app for direction ranging.

The Starlink system uses a phased array antenna that requires 100% view of the sky to ensure connectivity. This comes in the starter kit. The antenna is powered, so requires the use of a proprietary cable to link to the (Wi-Fi) router. There are many third-party moving accessories available on the market today.

Starlink also supports the use of resellers of which Telstra is a premium partner of in Australia.

¹⁹ Source: <https://www.whistleout.com.au/Broadband/Guides/Starlink-Australia-Everything-you-need-to-know>

Mobile Device to Satellite

Optus has partnered with Starlink to deliver mobile coverage direct to satellite. Under this partnership, where terrestrial Optus network coverage is unavailable Optus customers will be able to roam to Starlink satellites 4G services. This will use the 2100 MHz band.

The service is expected to launch in late 2024 with a SMS service only. Customers will only be able to send and receive SMS when they don't have mobile coverage to start. Calls and mobile internet services are expected in late 2025, early 2026. When available data rates will be low, around 1-5 Mbps downlink and 256 kbps to 1 Mbps uplink.

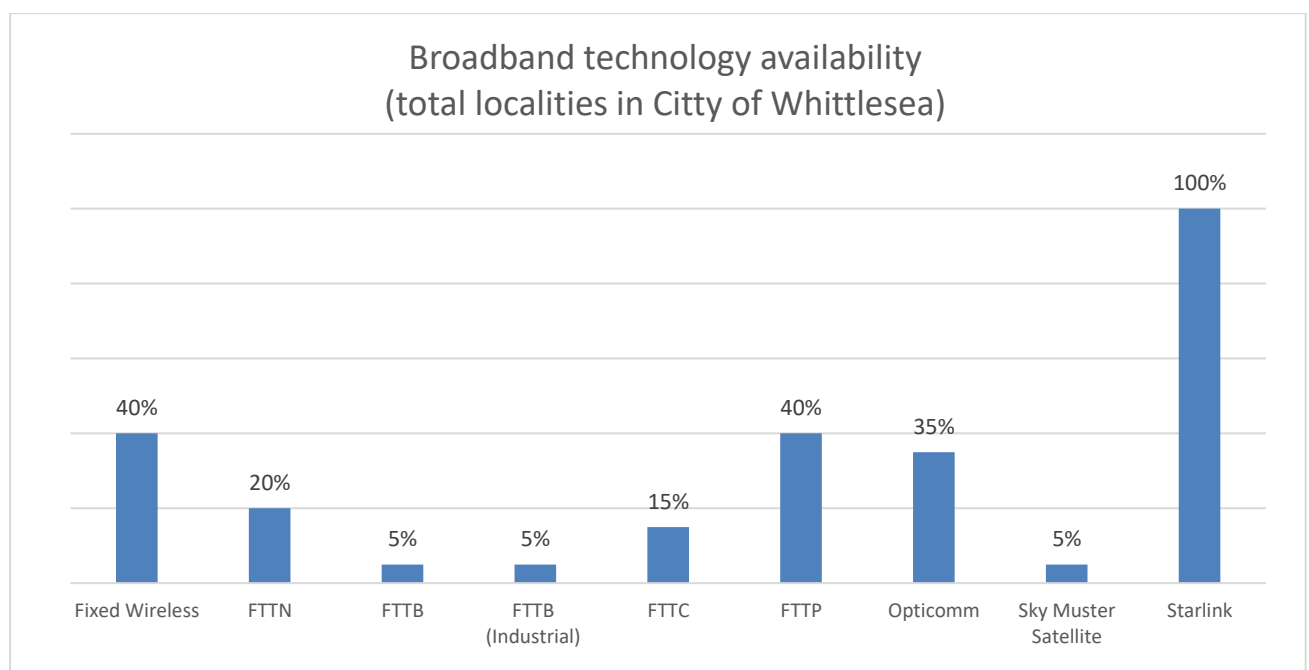
8. Broadband Technologies Availability Survey

As part of the provision of broadband internet services in the City of Whittlesea, it is important to understand the availability of broadband services. Based on network architecture, NBN has rolled out a mixed technology model in City of Whittlesea. The NBN technology for the respective localities (suburbs or townships) are listed below. The private internet wholesaler Opticomm has also rolled out FTTP to new housing estates in the municipality. Starlink has also been identified as a broadband provider for the purpose of this survey. This study has eliminated Cellular broadband from the survey and will be addressed in a later section.

Of all localities in the City of Whittlesea, Starlink was available at 100% of localities²⁰. FTTP features as the available technology for 40% of localities, followed by Fixed Wireless (40%), FTTN (20%). FTTC (15%) and FTTB (5%) and FTTB Industrial use (5%). Opticomm (FTTP) was also available in 35% of localities.

These figures highlight that 45% of the City of Whittlesea localities are serviced by nbn wireless technology, either sky muster satellite or fixed wireless. This availability is also linked to the most isolated communities in the City of Whittlesea, highlighting their vulnerability. Both sky muster satellite and fixed wireless technologies, in the GHz bands, are affected by smoke and certain climatic conditions.²¹ GHz band technologies are impacted more significantly from bushfire smoke than technologies lower on the spectrum band, such as mobile phone²², broadcast TV and radio and land mobile radio. The graph below,

Figure 10 – NBN technology availability summary City of Whittlesea (locality), displays the spread of broadband technologies in the City of Whittlesea.



²⁰ Providing the resident / business has the availability to mount the Starlink antenna with sky view.

²¹ Radio Propagation in Fire Environments - Adelaide University Research, Johnathon Boan 2009

²² See Table 3 - Mobile Telecommunications Carriers and networks

Figure 10 – NBN technology availability summary City of Whittlesea (locality)

The following maps display the coverage areas for the respective NBN technologies.

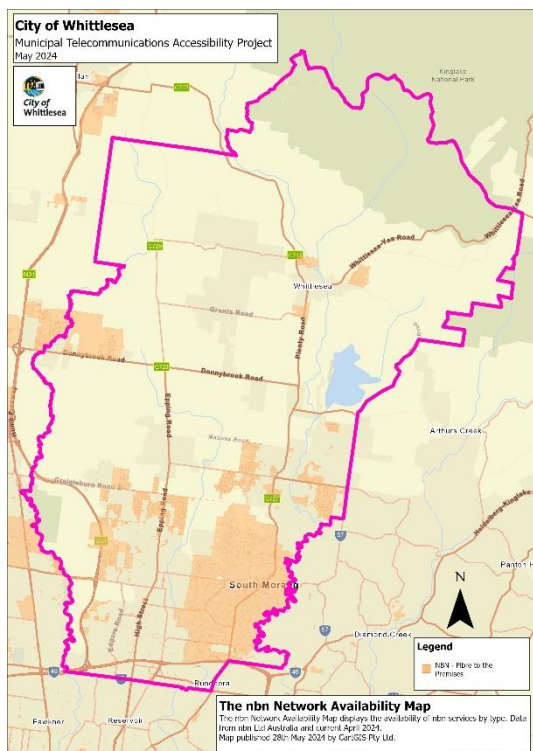


Figure 11 – nbn FTTP coverage area (orange)

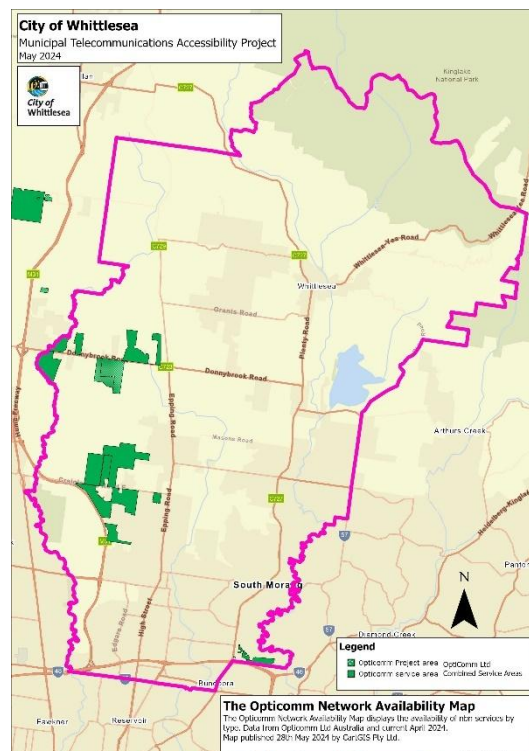


Figure 12 – Opticomm FTTP coverage area (green)

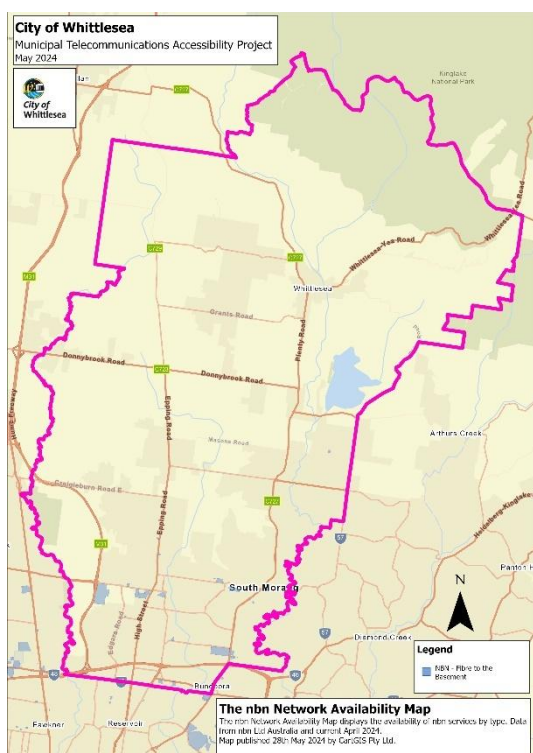


Figure 13 – NBN FTTB coverage area (blue)

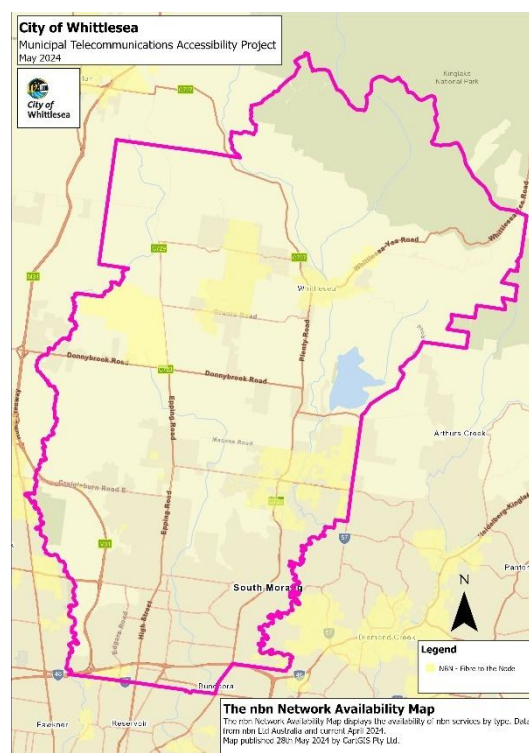


Figure 14 – NBN FTTN coverage area (yellow)

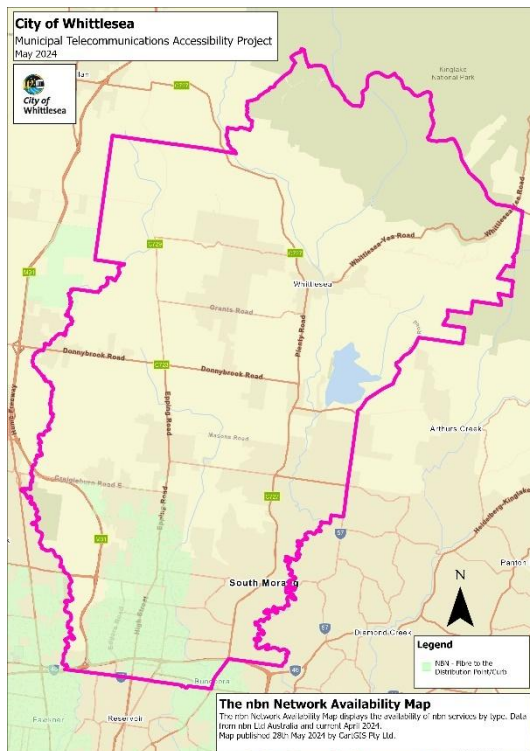


Figure 15 – NBN FTTC coverage area (light green)

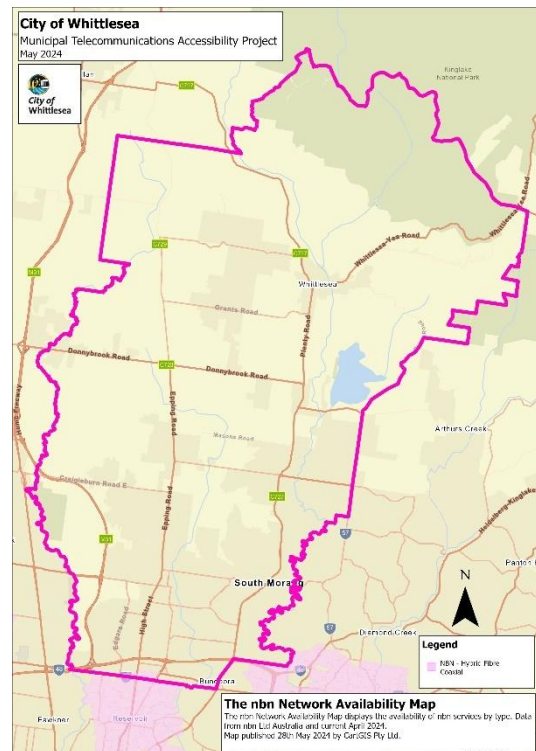


Figure 16 – NBN HFC coverage area (purple)

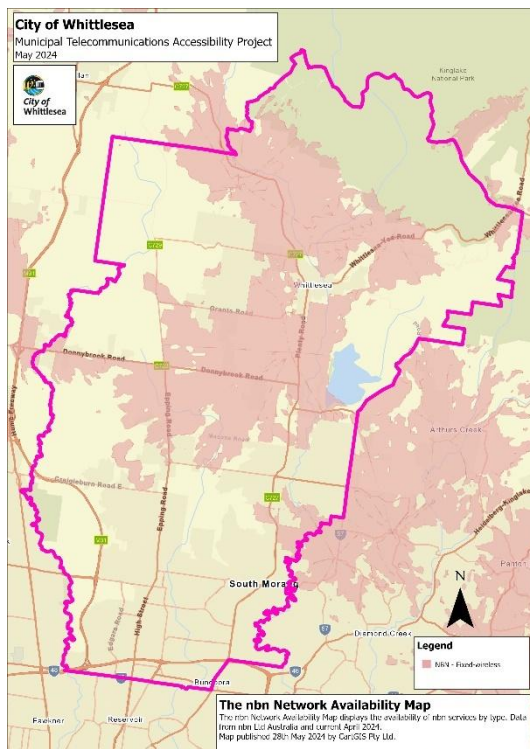


Figure 17 – NBN Fixed Wireless coverage area (red)

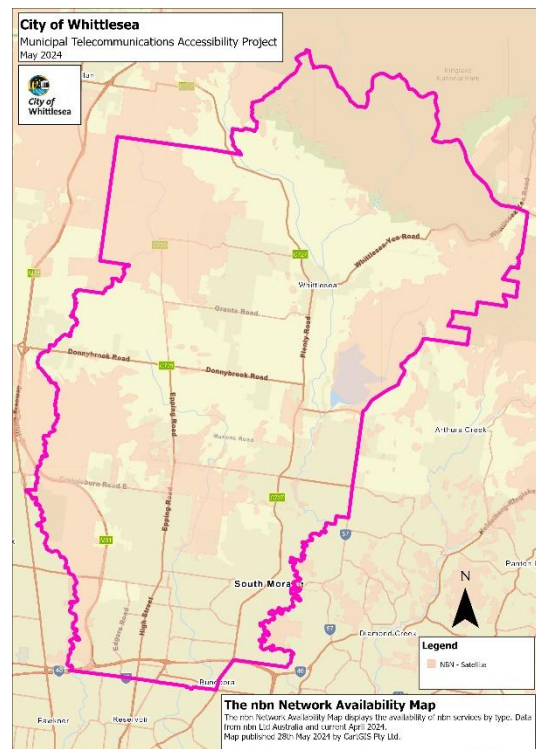


Figure 18 – NBN Satellite (SkyMuster) coverage area (light orange)

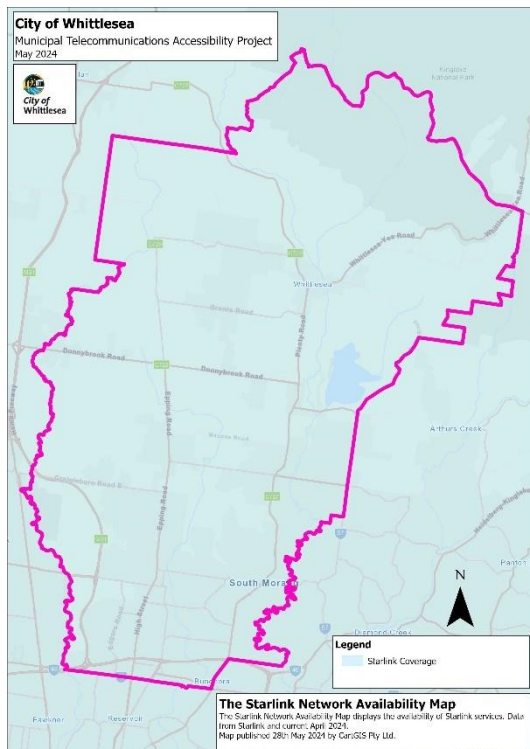


Figure 19 – Starlink coverage area (light blue)

The table below, Table 5 - Broadband technology availability by locality, displays the availability of NBN technologies in the City of Whittlesea by locality (suburb or township). This table highlights the disparity in fibre-cable-based services availability for the remote and isolated communities. Fibre-cable-based technologies are largely available in the urban areas, and wireless (satellite & fixed wireless) are available across the rural and regional townships. Fixed wireless services typically deliver 40% slower download speeds than fixed line services (based on highest speed plans).²³

Locality	Technology
Beveridge	FTTP Opticomm (FTTP)
Bruces Creek	Fixed Wireless
Bundoora	FTTC Opticomm (FTTP) FTTB (Industrial only)
Donnybrook	FTTP Opticomm (FTTP) Fixed Wireless
Doreen	FTTP FTTN Opticomm (FTTP)
Eden Park	FTTN Fixed Wireless
Epping	FTTC Opticomm (FTTP)
Humevale	Fixed Wireless
Kinglake West	FTTN

²³ Source: <https://www.accc.gov.au/consumers/internet-landline-services/broadband-performance-data>

	Fixed Wireless
Beveridge	FTTP Opticomm (FTTP)
Bruces Creek	Fixed Wirleess
Lalor	FTTC
Mernda	FTTP
Mill Park	FTTP
South Morang	FTTP
Thomastown	FTTP FTTC
Whittlesea	FTTP FTTN Fixed Wireless
Wollert	FTTP Opticomm (FTTP)
Woodstock	Fixed Wireless
Yan Yean	Fixed Wireless Sky Muster Satellite

Table 5 - Broadband technology availability by locality

9. Mobile Telecommunications Carrier Testing

9.1 Baseline Assessment

The baseline assessment criteria for testing locations involves four components. They are:

- City of Whittlesea priorities and study area
- Review of carrier advertised coverage
- Mobile black spot program data
- Local information assessment

9.2 City of Whittlesea Priorities & Study Area

The testing of mobile coverage is part of a wider program of initiatives aimed to address the City of Whittlesea priority to provide an equitable communication network for all residents and businesses. The secondary initiative is aimed at ensuring that communication coverage is resilient to meet emergency management requirements.

The road transport infrastructure network provides the backbone of the municipality and basis for tourism, transport, safety, and wellbeing of the communities it serves. Alongside the long-term development of these road networks, mobile communications are becoming increasingly critical to the effective functioning of regional and remote communities. The City of Whittlesea priority routes that were tested as part of this project are listed below and mapped in Figure 29 – Completed drive testing routes.

- | | |
|-----------------------------------|------------------------------|
| • Beveridge Road, Beveridge | • Fourth Avenue, Eden Park |
| • Glenburnie Road, Beveridge | • Glenburnie Road, Eden Park |
| • Grants Road, Beveridge | • Grants Road, Eden Park |
| • Janna Road, Beveridge | • Sixth Avenue, Eden Park |
| • Merriang Road, Beveridge | • Wallan Road, Eden Park |
| • Minton Street, Beveridge | • Bridle Court, Epping |
| • Plenty Road, Bundoora | • Bud Lane, Epping |
| • Settlement Road, Bundoora | • Childs Road, Epping |
| • Craigieburn Road E, Craigieburn | • Cooper Street, Epping |
| • Boomgate Avenue, Donnybrook | • Edgars Road, Epping |
| • Donnybrook Road, Donnybrook | • Epping Road, Epping |
| • Unnamed, Donnybrook | • Findon Road, Epping |
| • Breakwater Drive, Doreen | • Fullarton Drive, Epping |
| • Bridge Inn Road, Doreen | • Grand Parade, Epping |
| • Coolong Terrace, Doreen | • Greenbrook Drive, Epping |
| • Homelea Street, Doreen | • Harvest Home Road, Epping |
| • Mitchells Run, Doreen | • High Street, Epping |
| • Unnamed, Doreen | • Howard Street, Epping |
| • Woodridge Crescent, Doreen | • Larkspur Close, Epping |
| • Yan Yean Road, Doreen | • McDonalds Road, Epping |
| • Yellow Brick Road, Doreen | • Memorial Avenue, Epping |

- Mujeres Walk, Epping
- Oherns Road, Epping
- Saxony Drive, Epping
- Tarnalla Lane, Epping
- Taryn Drive, Epping
- Unnamed, Epping
- Vearings Road, Epping
- Willandra Drive, Epping
- Woodcutters Grove, Epping
- Humevale Road, Humevale
- Parkers Road, Humevale
- Ridge Road, Humevale
- Unnamed, Humevale
- Whittlesea - Yea Road, Humevale
- Whittlesea - Kinglake Road, Kinglake West
- Childs Road, Lalor
- Curtin Avenue, Lalor
- Edgars Road, Lalor
- High Street, Lalor
- Midway Crescent, Lalor
- Mindoro Crescent, Lalor
- Tambor Court, Lalor
- Bridge Inn Road, Mernda
- Etherington Drive, Mernda
- Unnamed, Mernda
- Childs Road, Mill Park
- Mcdonalds Road, Mill Park
- Unnamed, Mill Park
- Civic Drive, South Morang
- Gorge Road, South Morang
- Kurrak Road, South Morang
- Mcdonalds Road, South Morang
- Unnamed, South Morang
- Austarc Avenue, Thomastown
- Brand Drive, Thomastown
- Comalco Court, Thomastown
- Dalton Road, Thomastown
- Edgars Road, Thomastown
- High Street, Thomastown
- Keon Parade, Thomastown
- Mahoneys Road, Thomastown
- Northgate Drive, Thomastown
- Parklands Drive, Thomastown
- Settlement Road, Thomastown
- Temple Drive, Thomastown
- Unnamed, Thomastown
- Wattle Street, Thomastown
- Wood Street, Thomastown
- Beech Street, Whittlesea
- Clarks Road, Whittlesea
- Fore Street, Whittlesea
- Forest Street, Whittlesea
- Glenburnie Road, Whittlesea
- Grants Road, Whittlesea
- Humevale Road, Whittlesea
- Macmeikan Street, Whittlesea
- Plenty Road, Whittlesea
- Ridge Road, Whittlesea
- Showgrounds Road, Whittlesea
- Unnamed, Whittlesea
- Wallan Road, Whittlesea
- Walnut Street, Whittlesea
- Whittlesea - Yea Road, Whittlesea
- Wildwood Road, Whittlesea
- Black Angus Road, Wollert
- Bloom Crescent, Wollert
- Boundary Road, Wollert
- Bridge Inn Road, Wollert
- Brunning Rise, Wollert
- Craigieburn Road, Wollert
- Edgars Road, Wollert
- Epping Road, Wollert
- Hayloft Way, Wollert
- Hume Freeway, Wollert
- Lakeside Drive, Wollert
- Lauradan Way, Wollert
- Manorwood Crescent, Wollert
- Melksham Avenue, Wollert
- Piccadilly Drive, Wollert
- Ruma Way, Wollert
- Snowy Place, Wollert
- Trowbridge Drive, Wollert
- Unnamed, Wollert
- Vearings Road, Wollert
- Westferry Avenue, Wollert

- Wimmera Crescent, Wollert
- Donnybrook Road, Woodstock
- Epping Road, Woodstock
- Gibbs Lane, Woodstock
- Grants Road, Woodstock
- Merriang Road, Woodstock
- Monakeeba Boulevard, Woodstock
- Selkirk Road, Woodstock
- Unnamed, Woodstock
- Arthurs Creek Road, Yan Yean
- Deep Creek Road, Yan Yean
- Donnybrook Road, Yan Yean
- Grants Road, Yan Yean
- Plenty Road, Yan Yean
- Ridge Road, Yan Yean

In addition to the road transport infrastructure network, the following points of interest (POI) were also tested and mapped in .

- Regional and Rural Localities
- ESTA Emergency Markers (where the marker was on a roadside location)
- Educational Facilities
- Community Centres
- Aged Care and Centre Citizens Centres

In total there were 184 identified POI's within the City of Whittlesea. These POI's were added to the drive testing and brief stops were made at these locations. Where there were multiple POI's in a similar location (50 metre radius), only one test was undertaken at the most central location.

9.3 Mobile Telecommunications Carrier Coverage Maps

Each of the three Australian mobile network operators provide information about their coverage on their respective websites.

Within City of Whittlesea, Telstra has the most extensive coverage, followed by Optus, and Vodafone is third. Refer the following maps for specific coverage.

Telstra has the most comprehensive 4G (~95% of the geographic area) and 5G (~65% of the geographic area coverage in the City of Whittlesea.

Telstra has notable 5G coverage in the City of Whittlesea. The was mainly limited to the high-density areas fringe of the City of Whittlesea, with Eden Park and Humevale having limited 5G coverage.

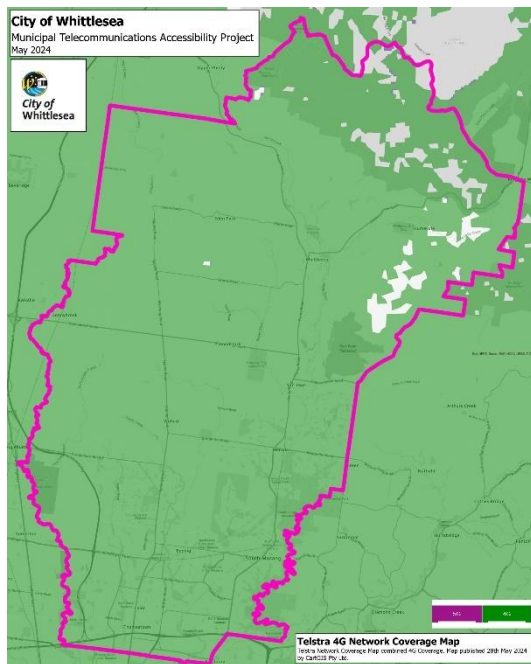


Figure 20 – Telstra 4G & Coverage Map

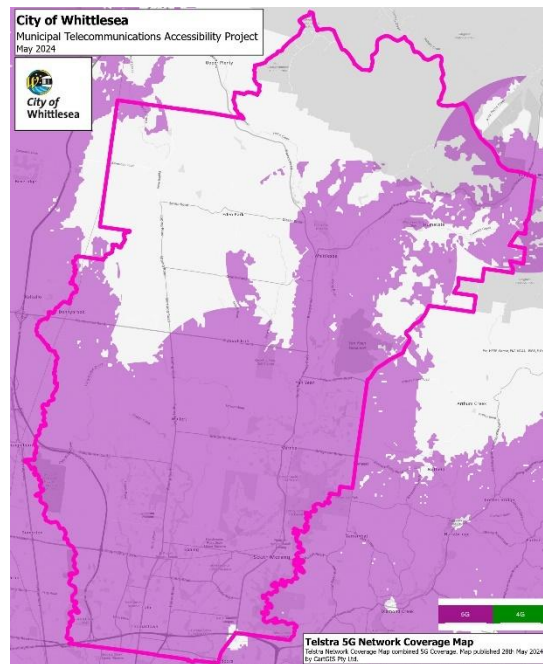


Figure 21 – Telstra 5G Coverage Map

Optus has the next most comprehensive 4G coverage (~92% of the geographic area) in the City of Whittlesea, which is closely aligned to the Telstra coverage. The current Optus 5G coverage (~12% of the geographic area) in City of Whittlesea is insignificant and limited to the high-density areas.

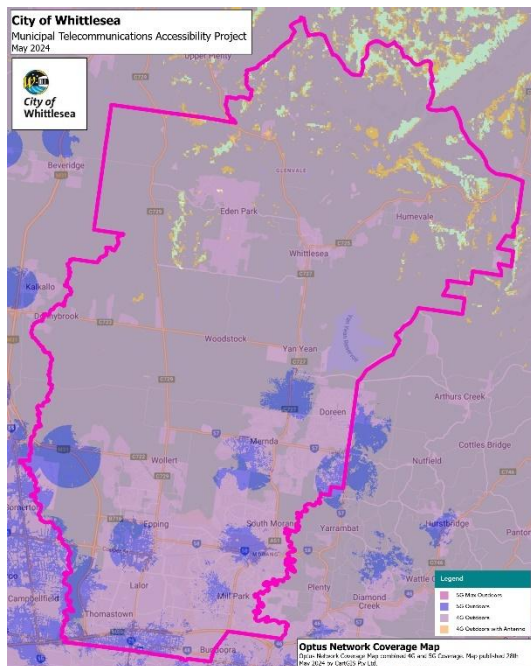


Figure 22 – Optus 4G & 5G Coverage Map

TPG Vodafone's has a significant coverage footprint in the City of Whittlesea. 4G (~85% of the geographic area) and 5G (~75% of the geographic area) coverage in the City of Whittlesea. The TPG Vodafone 5G network is a standalone network and not linked to its 4G network. The TPG Vodafone 5G network has significantly lower speeds than the Telstra and Optus 5G networks, with user experience of the lived experience quantifying speeds ranging between 35-50% slower.²⁴

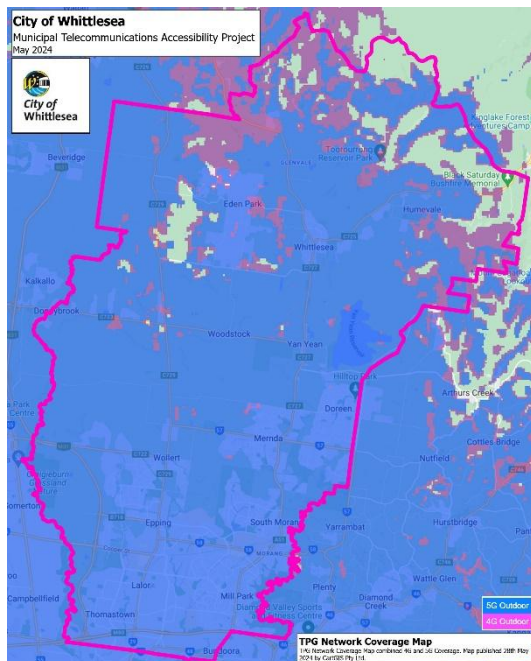


Figure 23 – TPG Vodafone 4G & 5G Coverage Map

²⁴ <https://www.techradar.com/news/telstra-and-optus-thrash-vodafone-for-5g-speed-in-latest-report>

10. Commonwealth and State Government Telecommunications Projects

10.1 Mobile Black Spot Program

The Mobile Black Spot Program (MBSP) was announced by the Commonwealth Government in 2015. Since 2015, there have been seven rounds of funding completed.²⁵

Rounds 1 and 2 of the MBSP led to a disproportion funding model to favour some areas with comparatively higher levels of existing coverage. These areas achieved funding reflective of providing an even spread of spending nationally on an eligible electorate basis. Backing by local political representatives based on Commonwealth electorates was identified as a success factor. Commonwealth electorates are based on population, which may have impacted City of Whittlesea disproportionately in the early rounds.

There was a program shift from round 4 onwards to focus on funding sites to promote regional and remote locations, including Public Interest Premises, across Australia. These criteria did not have linkages to resilience of mobile telecommunications infrastructure, however, and were purely based on coverage. The program did not fund black spots on the need for 'site hardening' alone. This has left regional and remote areas vulnerable to network outages due to severe events, such as storm and bushfire.

1,400 base stations have already been activated as part of the program to date, generating a total investment of more than \$1 billion

Mobile Black Spot Program Registration Database

For the initial MBSP rounds, the Department of Communications invited crowd sourcing of mobile phone black spots. Residents, business, industry, and government could contribute to map black spot areas across Australia. Following the initial consultation, there were 6,221 black spots submitted to the national database. This database increased to 10,802 during round 2 program, mainly due to the extra publicity the program received after the initial consultation²⁶. Although the national database has provided an insight for the selection of locations to be funded, mobile network operators are now, from round 3 onward, requested to nominate where they would build new or upgraded base stations.

The issue of using crowd sourcing to identify mobile phone black spots is the subjective way nominees identified coverage issues. Nominations did not link to proven coverage testing benchmarks. Furthermore, the national database was not qualified in any way. For example, nominees with an Optus coverage issue could nominate a blackspot even if a competitive carrier had coverage at that location.

²⁵ <https://www.infrastructure.gov.au/media-communications-arts/phone/mobile-services-and-coverage/mobile-black-spot-program>

²⁶ <https://www.communications.gov.au/what-we-do/phone/mobile-services-and-coverage/mobile-black-spot-program>

Mobile Black Spot Program results for City of Whittlesea

City of Whittlesea has benefited from round one of the MBSP. A total of one site has been approved and funded (Refer Figure 24 - Mobile Black Spot Funded Site for City of Whittlesea). The only site that has been approved under this program is for Telstra. (Refer Table below).

Location	MBSP identifier	Applicant	Cell Type	Round
Eden Park	MBSP2-VIC-008	Telstra	Macrocell	1

Table 6 – Mobile Black Spot Program Awarded City of Whittlesea

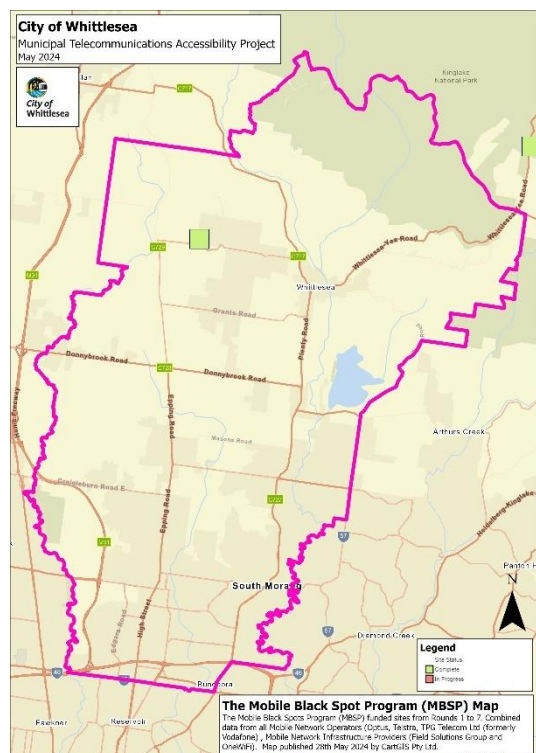


Figure 24 - Mobile Black Spot Funded Site for City of Whittlesea

10.2 Mobile Network Hardening Program

The Mobile Network Hardening Program (MNHP) is an Australian Government initiative funding upgrades to improve the resilience of Australia's mobile network telecommunications infrastructure in regional Australia to:²⁷

- prevent outages during a natural disaster.
- strengthen the resilience of telecommunications facilities to allow them to operate for longer during natural disasters; and
- support the rapid restoration of services following an outage.

Rounds 1 and 2 of the programs have been funded. Round 1 of the Mobile Network Hardening Program is providing \$23.5 million (GST inclusive) in grant funding to Optus, Telstra and TPG Vodafone across two stages to deliver approximately 1,000 projects to strengthen the resilience of regional telecommunications infrastructure.

Under Round 2 of the Mobile Network Hardening Program, the Australian Government is providing \$14.2 million (GST exclusive) in grant funding for 386 projects to strengthen the resilience of regional telecommunications infrastructure, across regional Australia.

Mobile Network Hardening Program results for City of Whittlesea

City of Whittlesea has benefited from round one of the program. A total of one site has been approved and funded (Refer Figure 25 - Mobile Hardening funded Site for City of Whittlesea). The only site that has been approved under this this program is with Telstra. (Refer Table below).

Location	MBSP identifier	Applicant	Upgrade	Round
Eden Park	MBSP2-VIC-008	Telstra	Lead-acid Battery Upgrade	1

Table 7 – Mobile Network Hardening Program Awarded City of Whittlesea

²⁷ <https://www.infrastructure.gov.au/media-communications-arts/phone/mobile-network-hardening-program>

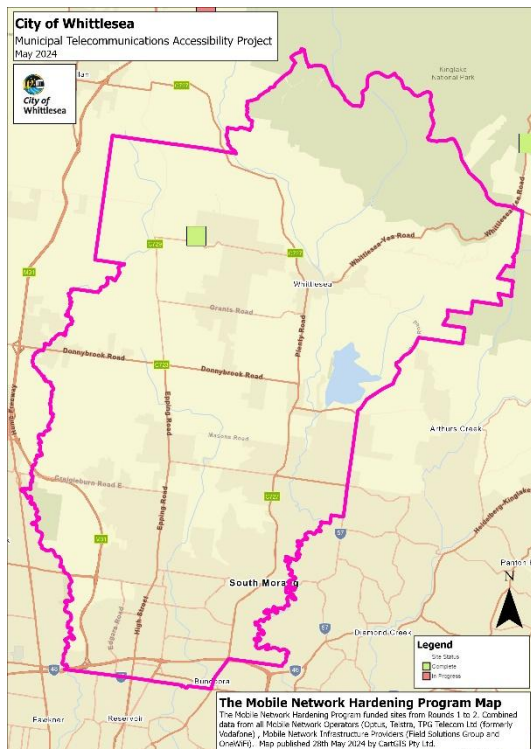


Figure 25 - Mobile Hardening funded Site for City of Whittlesea

10.3 Peri-Urban Mobile Program

The Peri-Urban Mobile Program (PUMP) is a grants program that provides funding to improve mobile connectivity in bushfire priority areas along the edges of Australia's major cities.²⁸

The program targets long standing mobile coverage and reception issues in the peri-urban fringes of Australia's major cities, including on the underserved fringes of large regional cities like Geelong, the Gold Coast, and Newcastle.

The peri-urban fringe is where the bush meets the edges of the suburbs, creating natural disaster risks for those living and working in those areas. These areas have been underserved because of their high cost, difficult terrain and lower population densities.

PUMP complements the Mobile Black Spot Program, providing grant funding to mobile network operators and infrastructure providers to deploy new mobile phone infrastructure to address mobile reception and coverage issues in peri-urban areas.

Peri-Urban Mobile Program (PUMP) results for City of Whittlesea

City of Whittlesea resides within the eligibility zone with the exception for Epping, Lalor, Thomastown and Bundoora. It has benefited from round one of the program. A total of one site has been approved and funded (Refer Figure 26 - Peri-Urban Mobile Program funded Site for City of Whittlesea). The only approved location is with TPG Vodafone (Refer Table below).

²⁸ <https://www.infrastructure.gov.au/media-technology-communications/phone/mobile-services-coverage/peri-urban-mobile-program>

Table 8 – Peri-Urban Mobile Program Awarded City of Whittlesea



10.4 Strengthening Telecommunications Against Natural Disasters Program

The Strengthening Telecommunications Against Natural Disasters program aims to;

- Increase and improve telecommunications resilience in communities recently affected by severe bushfires or at risk of natural disasters in the future.
- Enhance the capability to restore services to areas affected by bushfires or natural disasters by quickly deploying temporary facilities to address gaps caused by outages.

Strengthening Telecommunications Against Natural Disasters Program results for City of Whittlesea

It has benefited from round one of the programs. A total of 3 site has been approved and funded (Refer Figure 27 - Strengthening Telecommunications Against Natural Disasters Program funded Site for City of Whittlesea).

Locality	Place	Address
Epping	Epping Memorial Hall	827-835 High St, Epping VIC 3076
Epping	Galada Community Centre	10 Forum Way, Epping VIC 3076
Whittlesea	Whittlesea Community Activity Centre	57 Laurel St, Whittlesea VIC 3757

Table 9 – Strengthening Telecommunications Against Natural Disasters Awarded City of Whittlesea

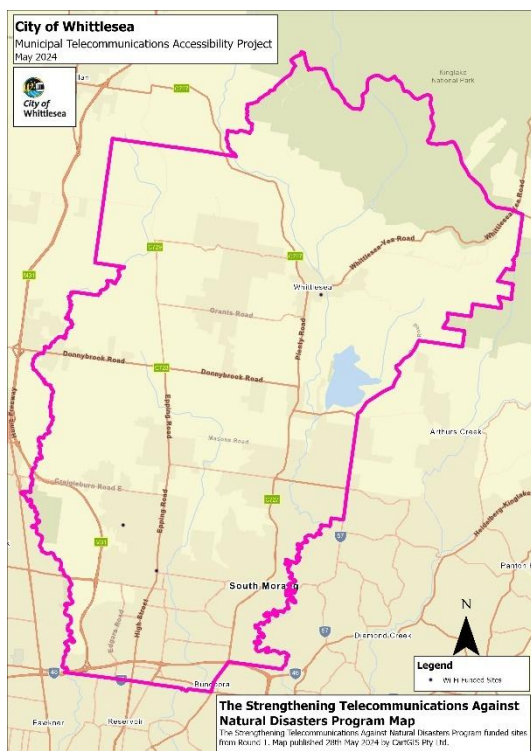


Figure 27 - Strengthening Telecommunications Against Natural Disasters Program funded Site for City of Whittlesea

11. Cellular Testing Results

As an independent testing organisation, CartGIS provides impartial user experience-based reports and recommendations. The methodology used by CartGIS to independently test mobile network performance and identify carrier blackspots has been developed and refined over the last 10 years.

We used six Samsung A15 handsets, as commonly used by members of the public, to capture information about the signal strength and network performance for each for the three national carriers 4G and 5G- Telstra, Optus & TPG Vodafone. This benchmarking process provides a robust methodology acknowledged and respected by the carriers.

Clients typically use the report and specific recommendations to advocate for increased funding by Federal and State governments together with each of the three national carriers – often through the Mobile Black Spot Program.

We tested with an app we have developed specifically for this purpose – DriveCell Network Test to capture all the information we can about the mobile network and the test device itself. An example of the DriveCell app screen can be seen in Figure 28 – DriveCell App.

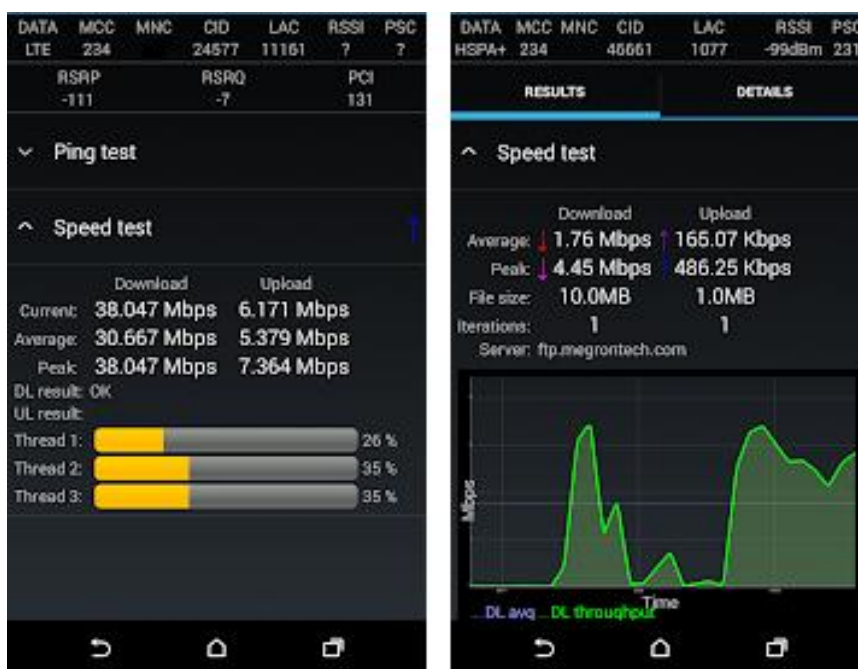


Figure 28 – DriveCell App

By providing the GPS location and current results in real time, testers can monitor and authenticate the testing accuracy in real time. Our testing is now completed using Android handsets with the results available in near real-time from an online portal.

We installed six mobile phones (one for each carrier) across the front of the test vehicle. We complied with driver sight line requirements and achieved required separation distances to avoid radio interference.

There are five simple principles used to inform our testing methodology:

- User experience based – we use handsets commonly owned by users rather than other more technical and theoretical approaches.
- Same handset, same settings – this provides an equitable basis for benchmarking network performance.
- Simultaneous testing – all tests are carried out in the same vehicle – spaced to remove interference and completed at the same time in that location.
- Signal Quality – for 4G and 5G. Signal quality is based on Signal Received Quality (RSRQ). Quality considering also RSSI and the number of used Resource Blocks (N) $RSRQ = (N * RSRP) / RSSI$ measured over the same bandwidth. RSRQ is a C/I type of measurement and it indicates the quality of the received reference signal. The RSRQ measurement provides additional information when RSRP is not sufficient to make a reliable handover or cell reselection decision.
- RSSI is a measurement of the Radio Frequency / Radio Wave power present in a received radio signal at the mobile phone. This measure is the best indicator of mobile coverage as it considers frequency band, power of the transmitter, quality of the mobile phone receiver and vegetational and graphic obstructions. It does not, however, measure the capacity or the performance of the network.
- Network Performance Test – quality of signal. This measure considers network capacity, speed, and coverage. It uses multiple industry standards performance and quality indicators.

11.1 Testing Routes and Locations

The test program was developed to deliver test results for all routes identified by City of Whittlesea. The total testing distance was 1455 km and took 118 hours to complete. The average speed for testing was 36.85 km/hour. This timeline also included stopping at points of interest.

The map below, Figure 29 – Completed drive testing routes, identifies the routes travelled and tests undertaken. below, identifies the POI locations for testing.

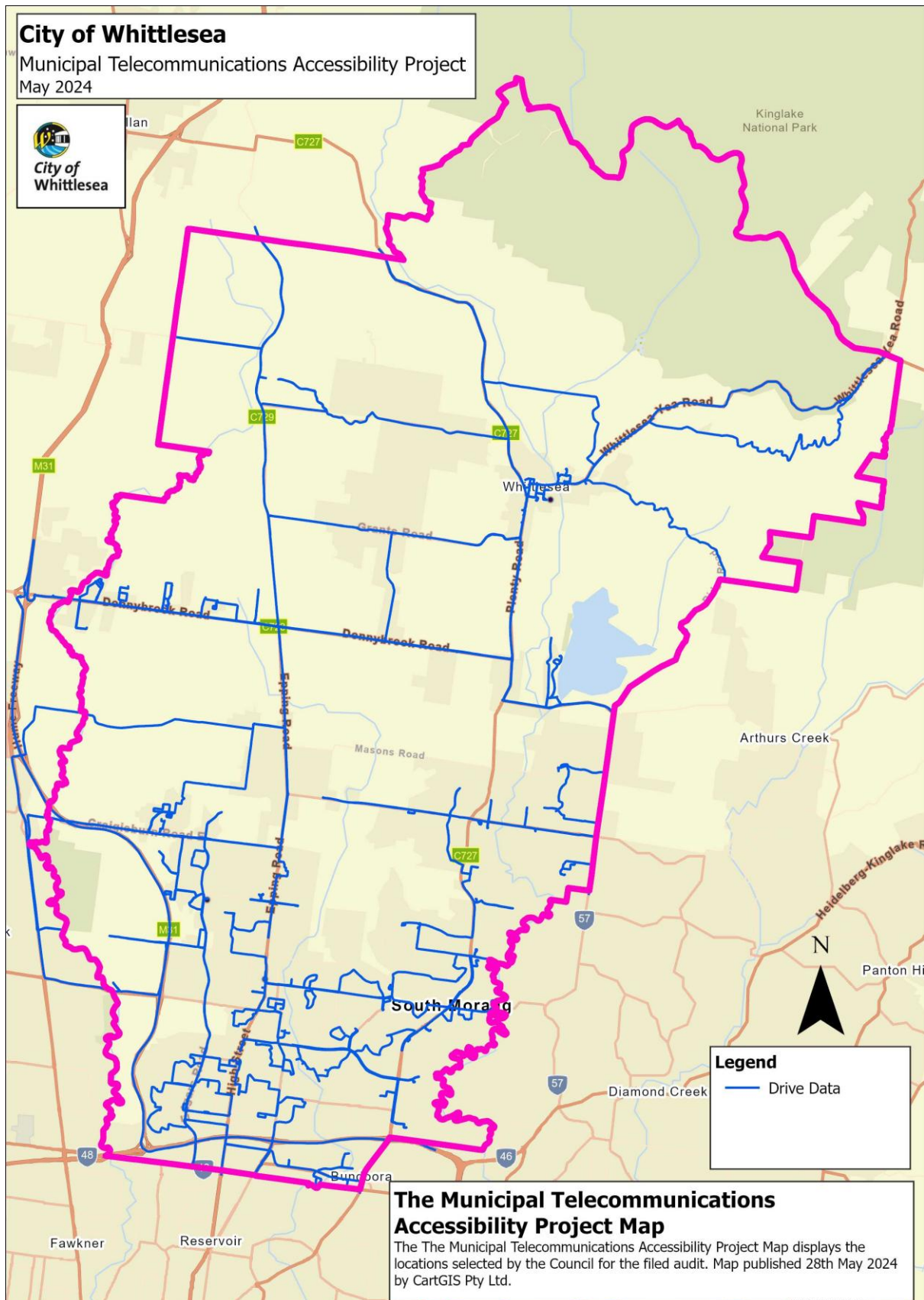
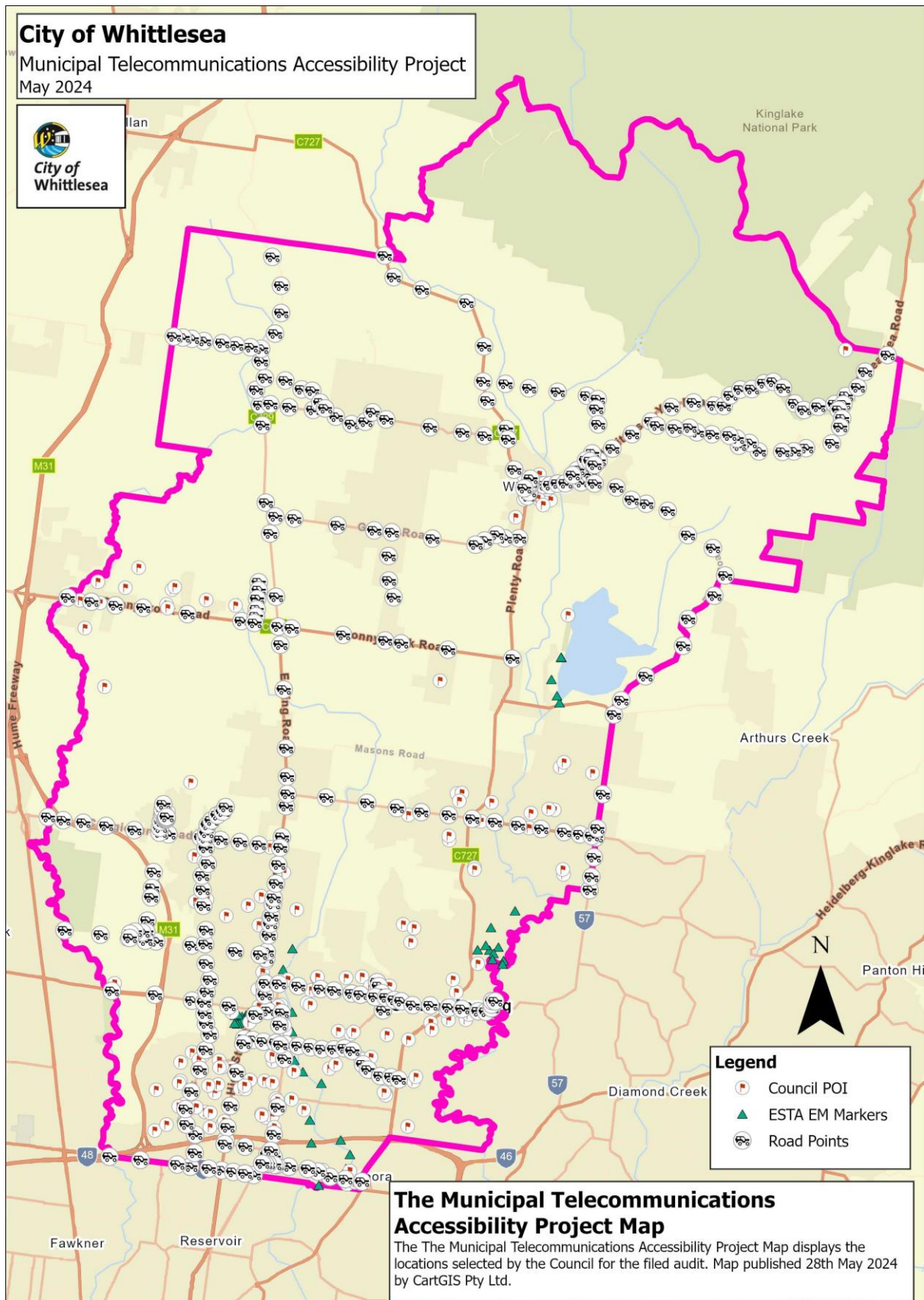


Figure 29 – Completed drive testing routes



Due to restrictions such as road works, closed roads, dangerous road conditions, some POI's could not be accessed. POI's that were not located on a road network (such as walking tracks) were not tested due to limited accessibility.

In total there were 170, 862 individual mobile coverage tests undertaken across the three carriers.

11.2 Signal Strength

We have tested mobile signal Strength for each of the three mobile network operators (Telstra, Optus and Vodafone) in 4G and 5G modes at approx. every 20 seconds for the 1,455 km across the designated routes. This has generated 170, 862 marker points in aggregate. This methodology will comprehensively demonstrate the quality of coverage by carriers in each area tested.

Although Telstra has the greater coverage, Telstra is outperformed in some hot spots by either Optus or Vodafone. Overall, though, Telstra maintains its consistently high presence and coverage across network types.

Signal strength by itself is not the best indicator of a network performance as it only shows where local access is possible. The signal strength information combined with the network performance testing provides a clear assessment on the user experience of networks in the region of study.

12. Network Performance Test Results

The Network Performance Test assesses mobile service quality by using the measurements of RSRQ for both 4G and 5G. The higher the mobile internet connection quality the greater the download speed, upload speed and ping/latency (time taken to reach the internet and back).

Mobile internet connection quality is a true representation of the performance of the network, whereas download speed, upload speed alone does not truly reflect the network performance, capacity, and availability.

The test results will focus predominantly on 4G network performance, as 4G encompasses over 96% of the network tested. Network quality did not measure 3G services.

Network quality is categorised in the following fashion.

	Strong signal enabling maximum data capacity
	Good signal and speeds with no dropouts expected
	Fair/usable signal with possibility of dropouts and slowdowns
	No usable signal - expect frequent disconnections and sluggish performance

The test results have identified the following locations that are not currently serviced “adequately” by at least one cellular telecommunication carrier with usable network quality.

- a) Residential and business communities not currently serviced “adequately” by at least one cellular telecommunication carrier with usable network quality – target 100%. Locations include:
 - Eden Park
 - Beveridge
 - Donnybrook
 - Humevale
 - Wollert
- b) Tourism locations and Roads include:
 - Epping Road, Beveridge
 - Glenburnie Road, Beveridge
 - Grants Road, Woodstock
 - Humevale Road, Humevale
 - Jana Road, Beveridge
 - Ridge Road, Humevale
 - Whittlesea-Yea Road, Humevale
- c) Selected national parks and forestry sites – locations include:
 - Yan Yean Reservoir
- d) Key sites in times of natural disaster – floods and fires. Locations include:
 - Eden Park

- Beveridge
- Humevale
- Refer to other tourism locations (1.c)

The following maps Figure 32 – Combined 4G Network Quality, identifies the Network quality for all carriers in City of Whittlesea and is representative of the locations listed above.

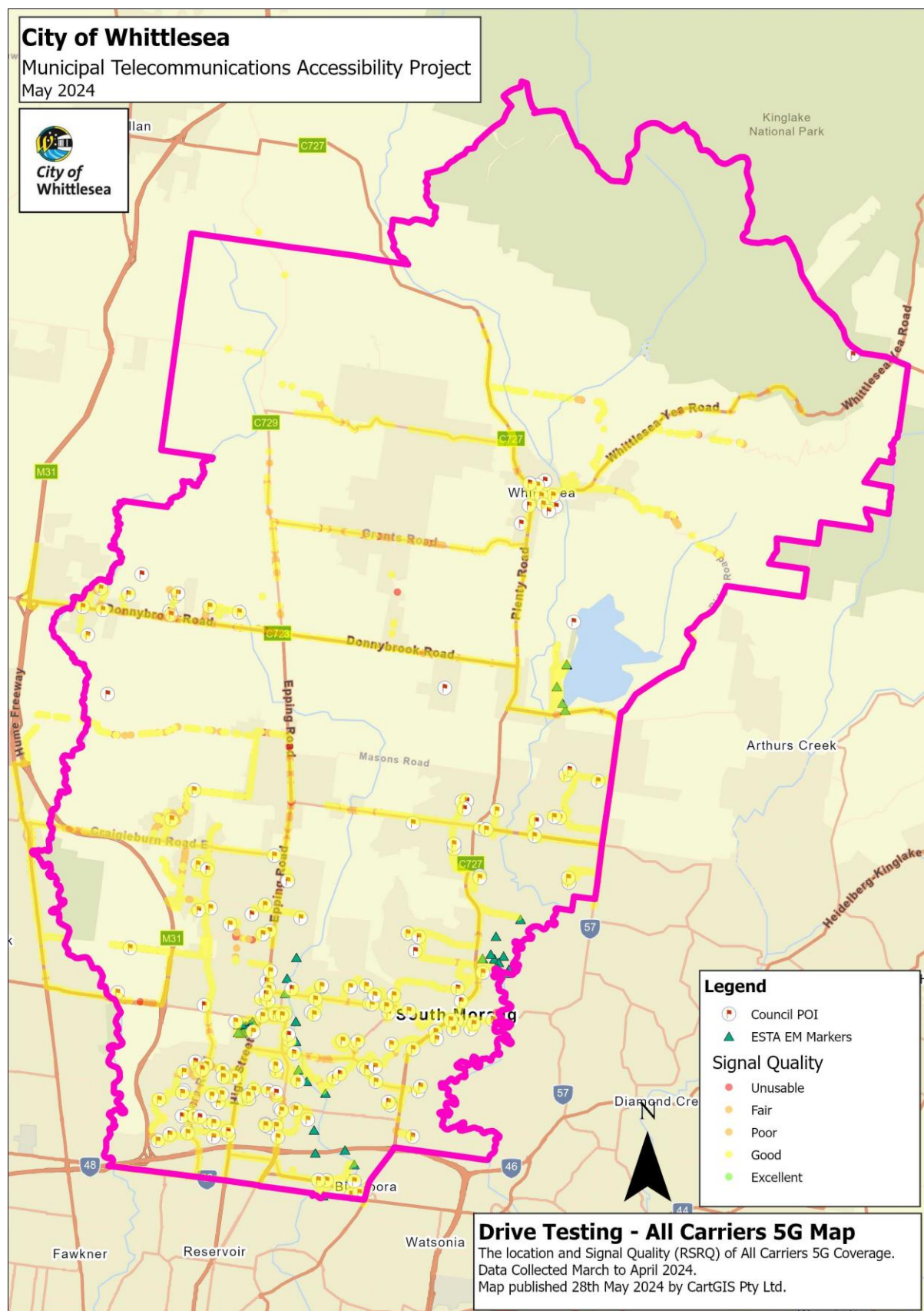


Figure 31 – Combined 5G Network Quality

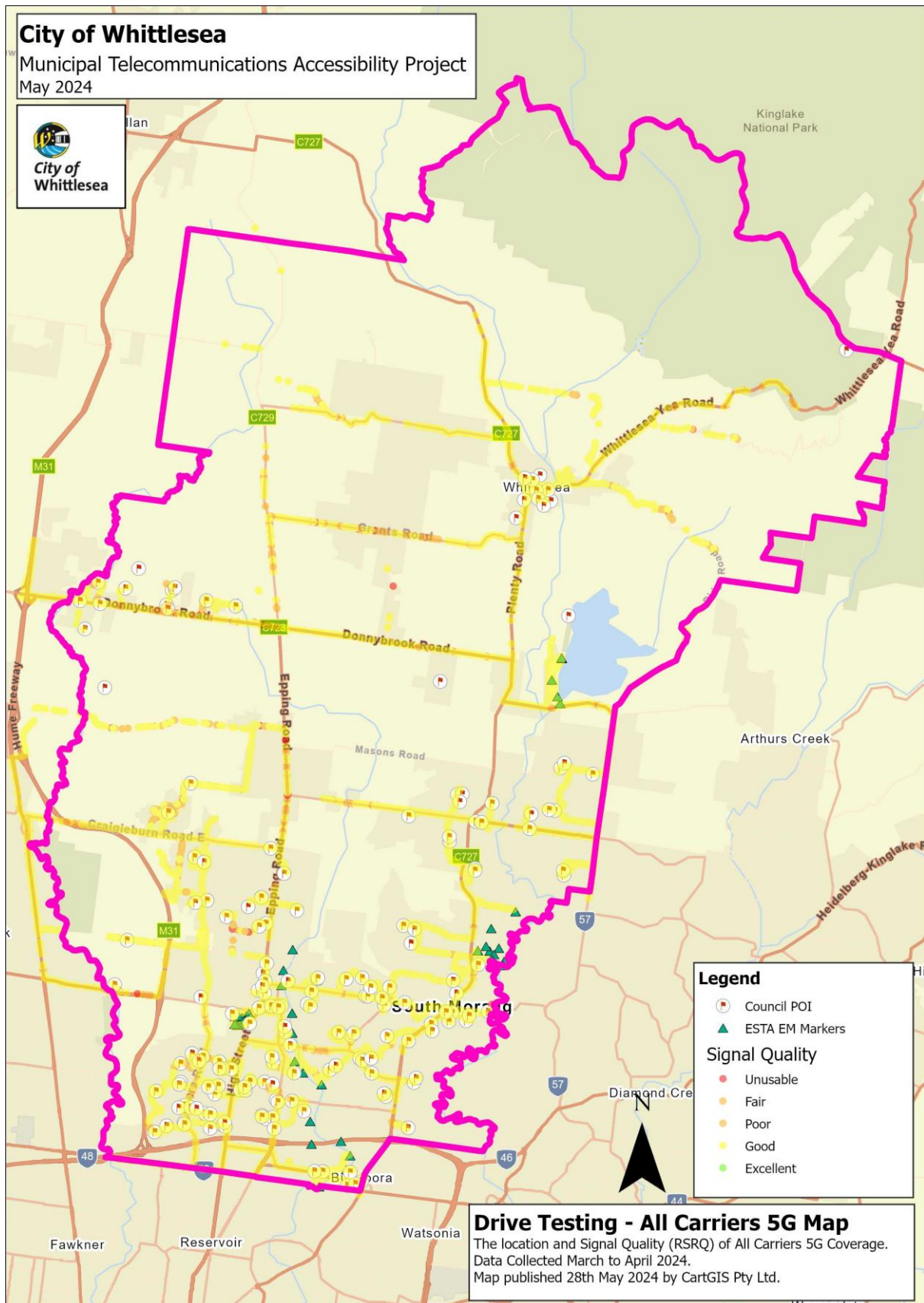


Figure 32 – Combined 4G Network Quality

When combined across all carriers, based on drive testing, 20% of the network is excellent, 30% good, 41% is fair / poor. However, 10% of the network is unusable signal.

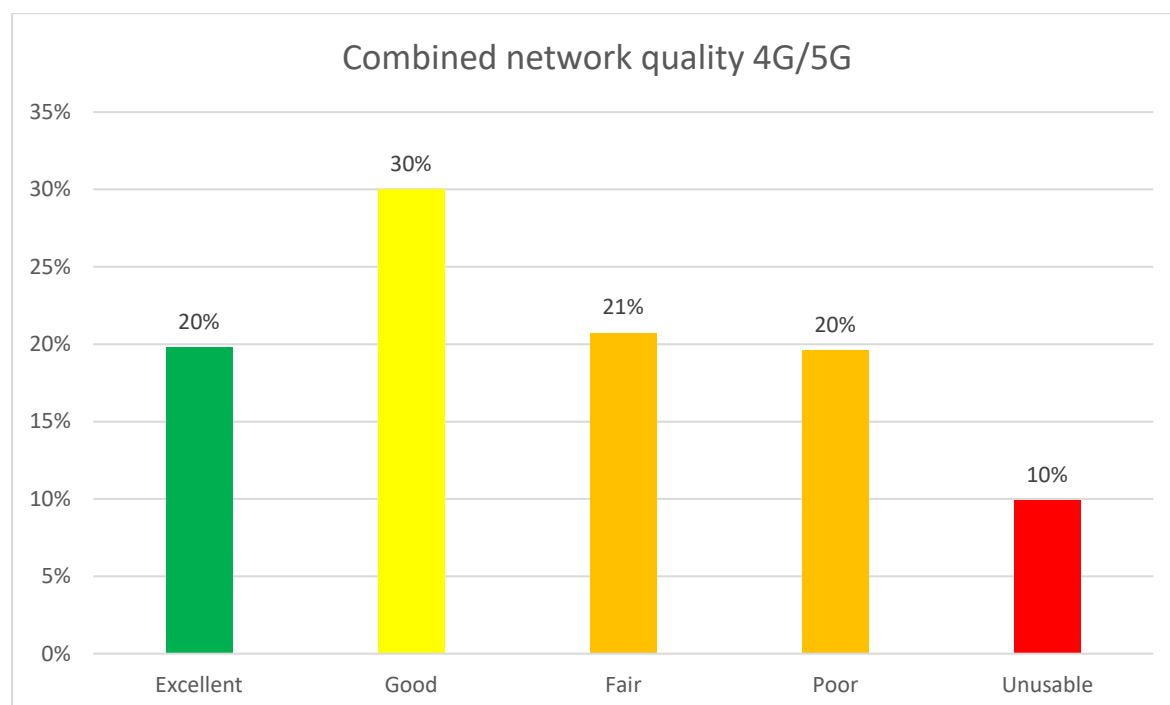


Figure 33 – Combined network quality

When the network quality is broken down into carriers the following results are provided. This is displayed in both Table 10 - Combined Drive test network quality and Figure 34 – Carrier Drive test network quality.

Network Quality	Combined
Excellent	20%
Good	30%
Fair	21%
Poor	20%
Unusable	10%

Table 10 - Combined Drive test network quality

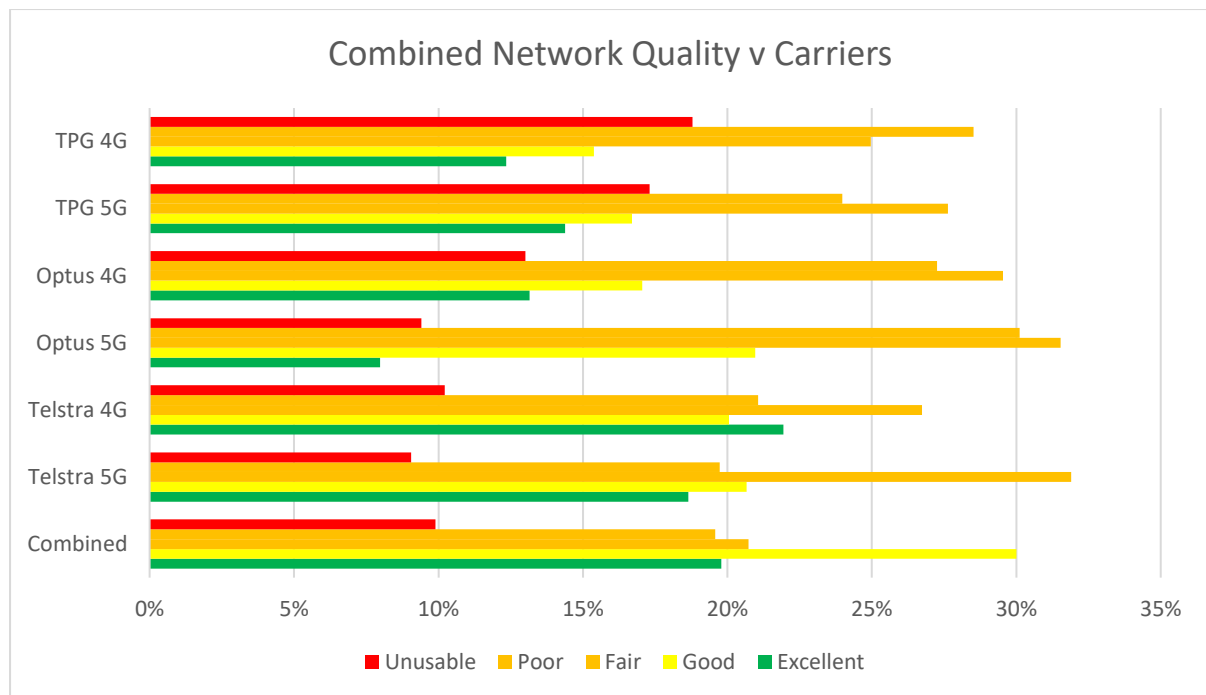


Figure 34 – Carrier Drive test network quality

	Combined	Telstra 5G	Telstra 4G	Optus 5G	Optus 4G	TPG 5G	TPG 4G
Excellent	20%	19%	22%	8%	13%	14%	12%
Good	30%	21%	20%	21%	17%	17%	15%
Fair	21%	32%	27%	32%	30%	28%	25%
Poor	20%	20%	21%	30%	27%	24%	29%
Unusable	10%	9%	10%	9%	13%	17%	19%

Table 11 - Carrier Drive test network quality

Based on these results, Telstra had the highest usable network quality (strong, good, fair) results at 69% for 5G and 60% for 4G. Optus had usable network quality (strong, good, fair) of 60% for its “small” 5G footprint and 60% for its far larger 4G coverage footprint. Whereas TPG Vodafone only had 59% usable network quality for 5G and 53% for its 4G network. This result may be indicative of a higher proportion of Telstra subscribers in the City of Whittlesea, hence reducing capacity and quality from the network.

The following maps (Figure 35, Figure 36 and Figure 37) graphically display the respective carriers network quality. Gaps in the drive testing results data (as indicated on the maps below) are representative of no coverage.

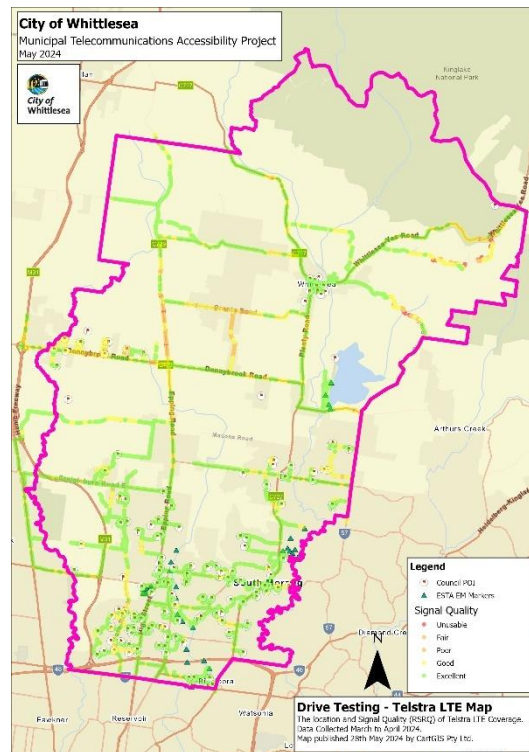
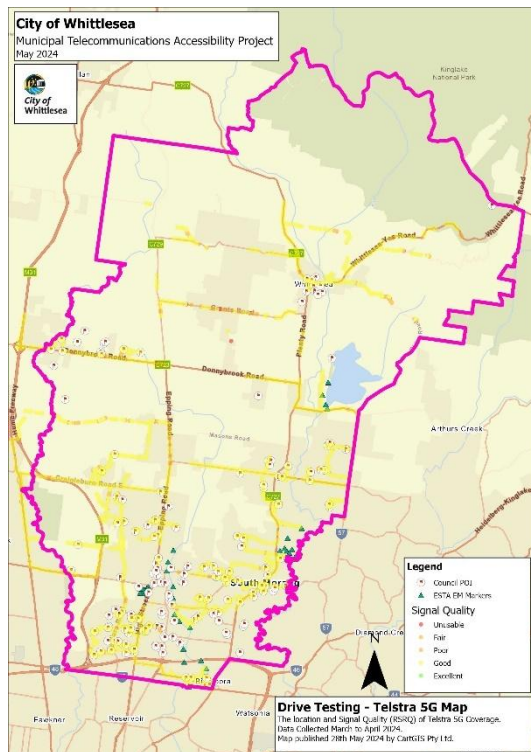


Figure 35 – Telstra 5G and 4G network quality

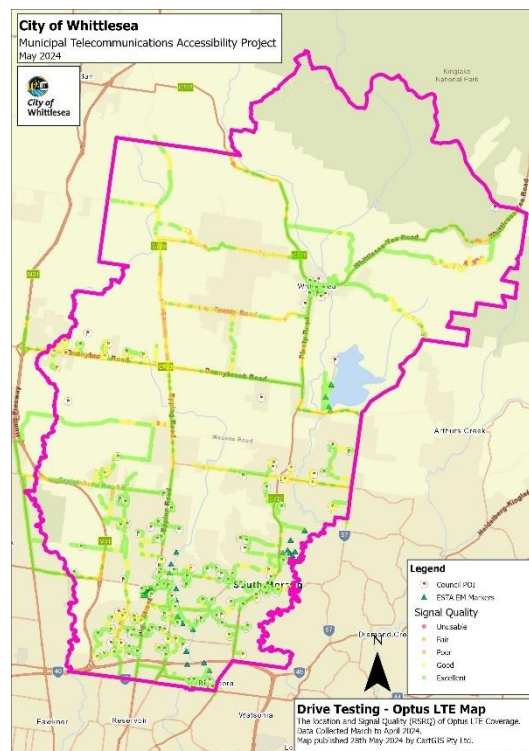
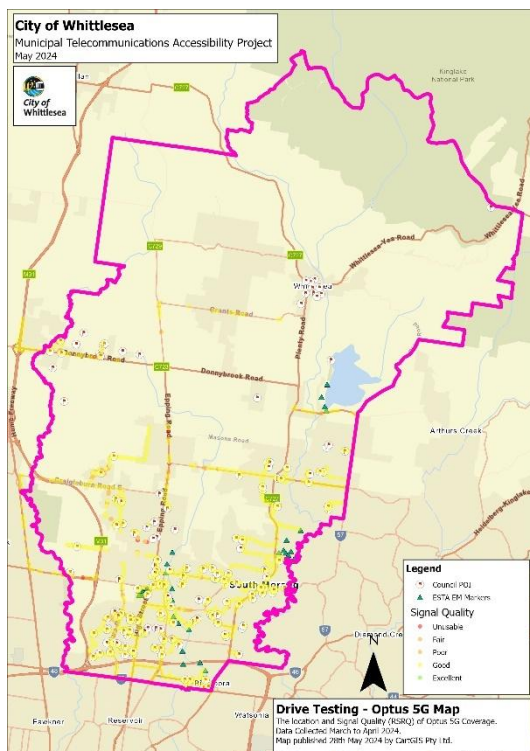


Figure 36 – Optus 5G and 4G network quality

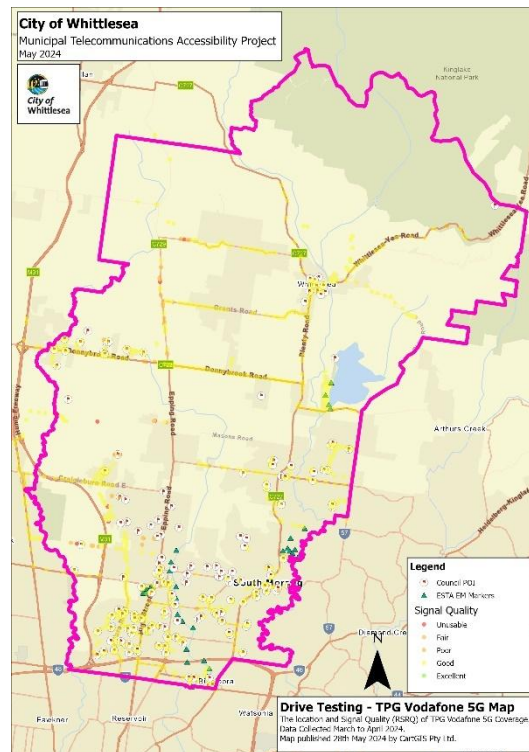
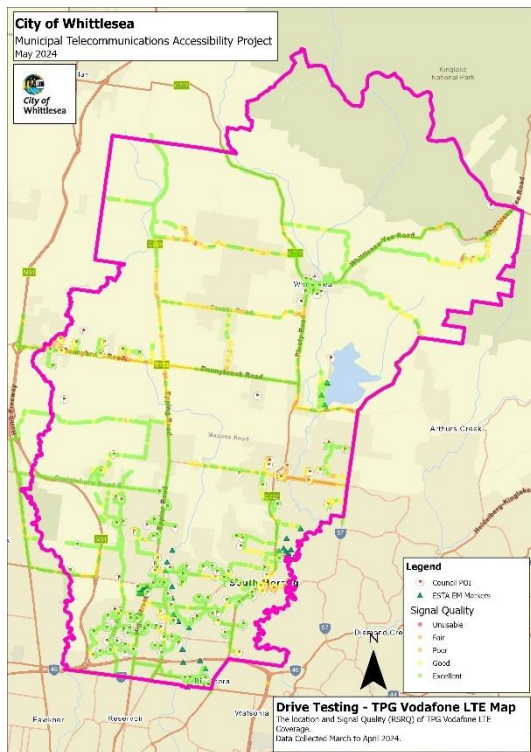


Figure 37 – TPG Vodafone 5G and 4G network quality

12.1 Emergency Marker Coverage

City of Whittlesea requested that testing was undertaken at all emergency markers located on the road network within City of Whittlesea. Due to restrictions such as road works, closed roads, dangerous road conditions, some emergency markers could not be accessed. Emergency markers that were not located on a road network (such as walking tracks) were not tested due to limited accessibility.

5G coverage was disregarded from the statistic due to the poor coverage of 5G of all carriers in the municipality. Of the emergency markers tested, 8% had unusable or no coverage. However, all Emergency Markers had at least fair or better quality of one carrier ensuring a triple zero call could be made²⁹. The list of the coverage for all emergency markers is listed in Appendix 24 – Emergency Marker Coverage.

Individual carrier's results confirmed that Telstra had Emergency marker coverage with only 5% had unusable or no coverage and the greatest combined excellent and good coverage of 43% compared to 38% Optus and TPG Vodafone respectively.

There were no emergency markers that had unusable or no coverage from all carriers.

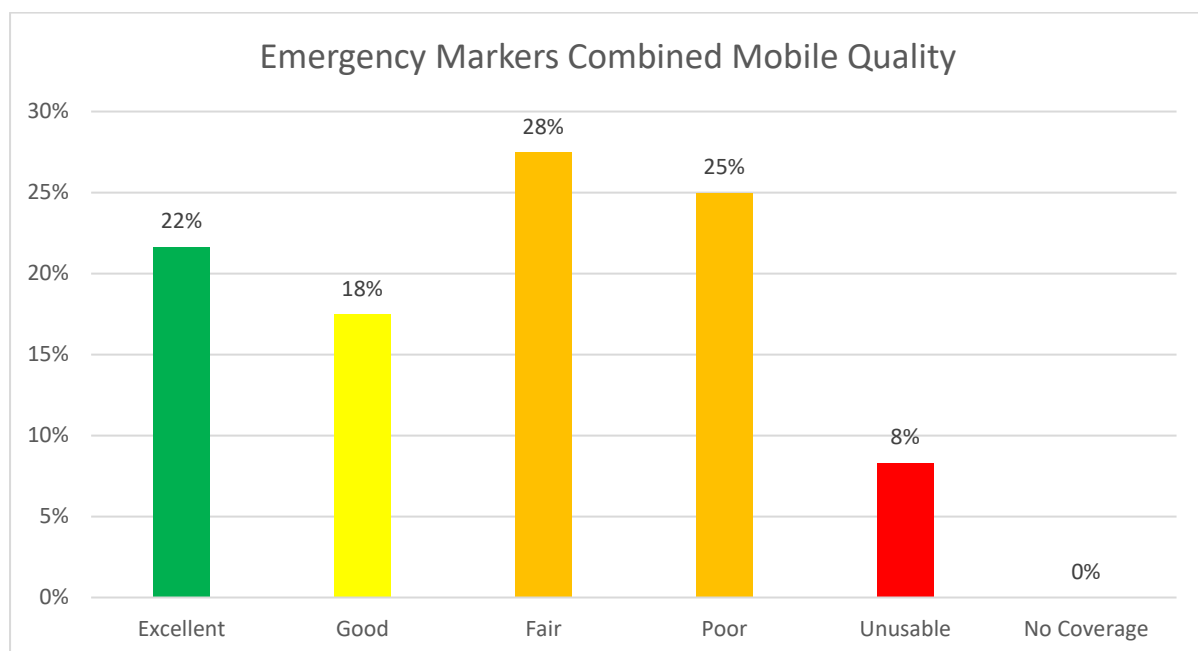


Figure 38 – Emergency Marker Combined Mobile quality results

²⁹ When calling triple zero the mobile phone will roam to other carriers to permit emergency calls.

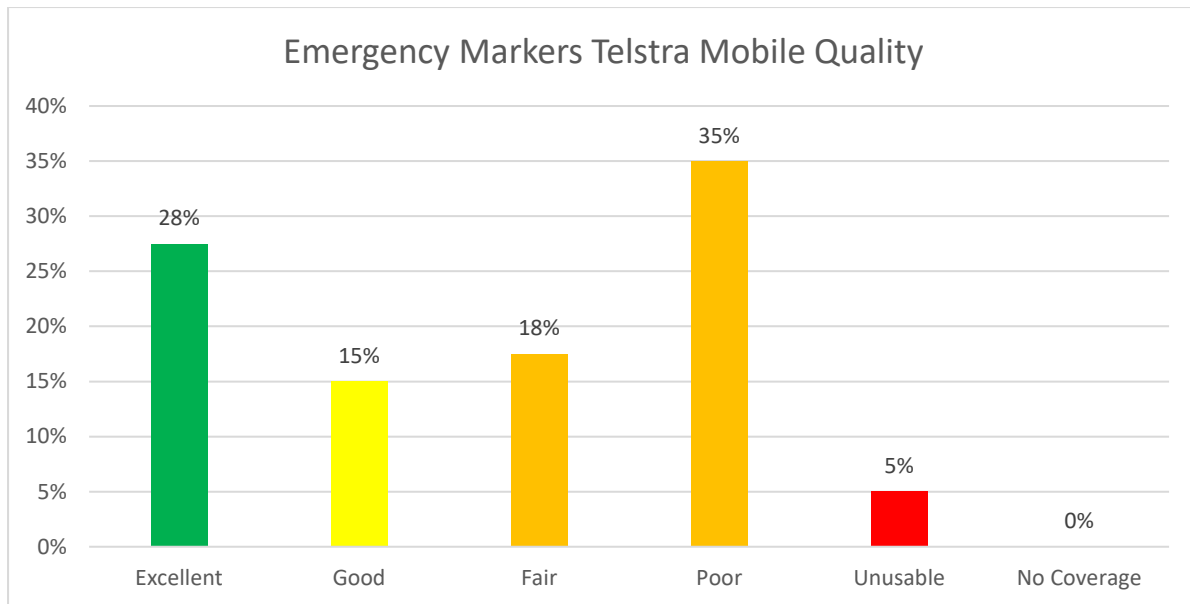


Figure 39 – Emergency Marker Telstra Mobile quality results

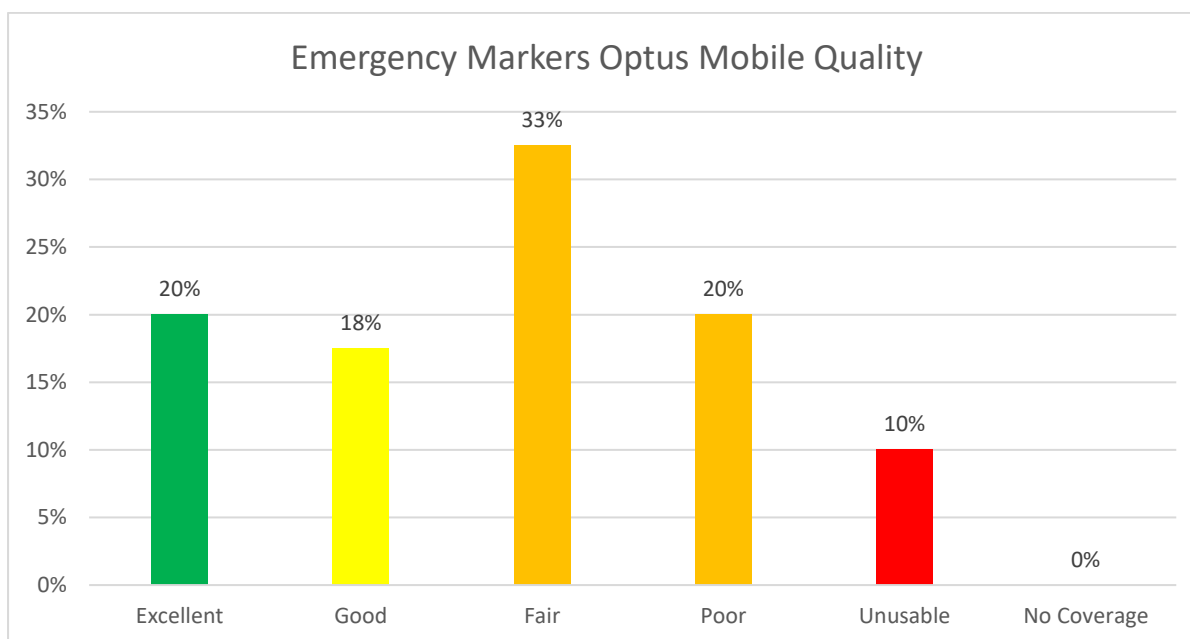


Figure 40 – Emergency Marker Telstra Mobile quality results

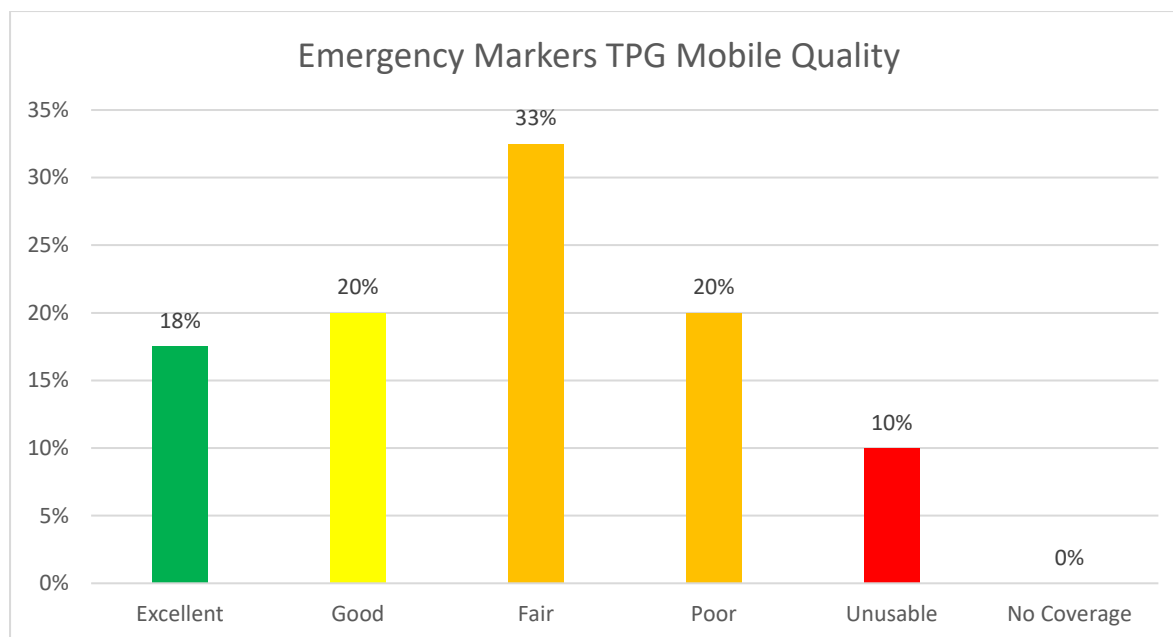


Figure 41 – Emergency Marker Telstra Mobile quality results

12.2 Other POI Coverage

City of Whittlesea requested that testing was undertaken at all other POI's located on the road network within City of Whittlesea. Due to restrictions such as road works, closed roads, dangerous road conditions, some other POI's could not be accessed.

5G coverage was disregarded from the statistic due to the poor coverage of 5G of all carriers in the municipality. Of the other POI's tested, 5% had unusable or no coverage. The list of the coverage for all other POI's is listed in Appendix 25 – POI's Coverage.

Individual carrier's results confirmed that Optus had POI coverage with only 2% had unusable or no coverage. Telstra the greatest combined excellent and good coverage of 47% compared to 35% Optus and 34% TPG Vodafone.

There were no POI's that had unusable or no coverage from all carriers.

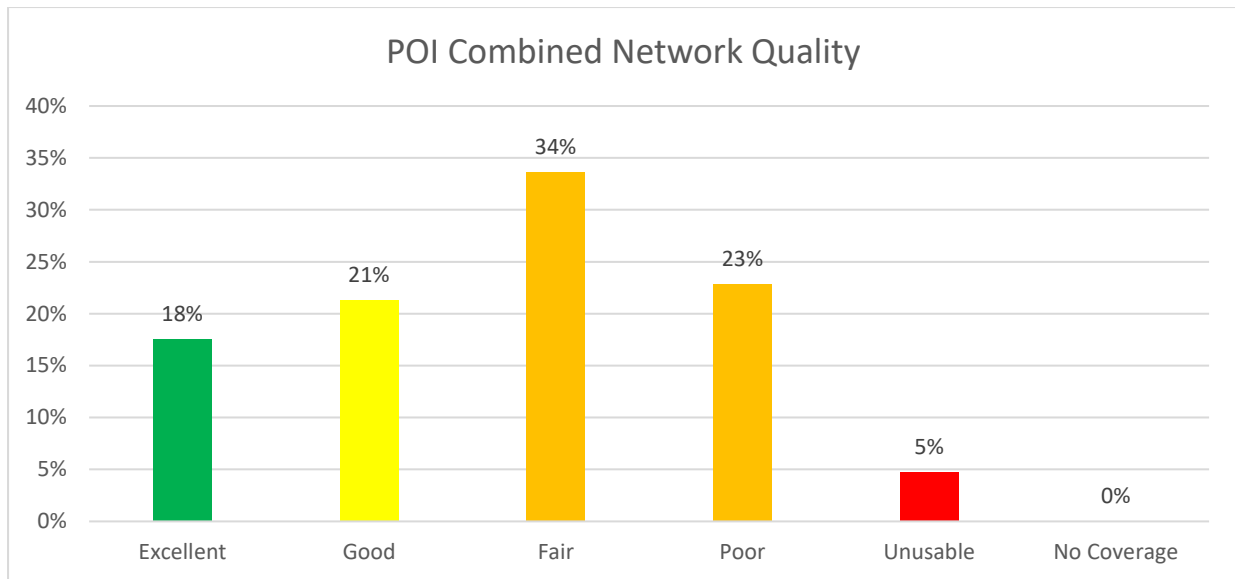


Figure 42 –POI Combined Mobile quality results

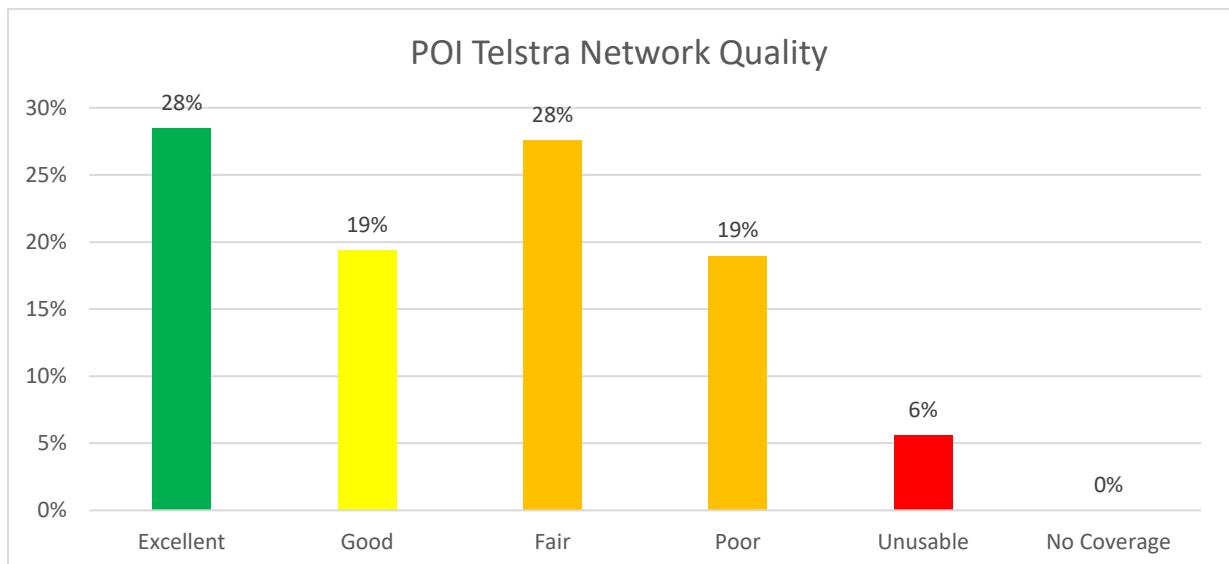


Figure 43 –POI Telstra Mobile quality results

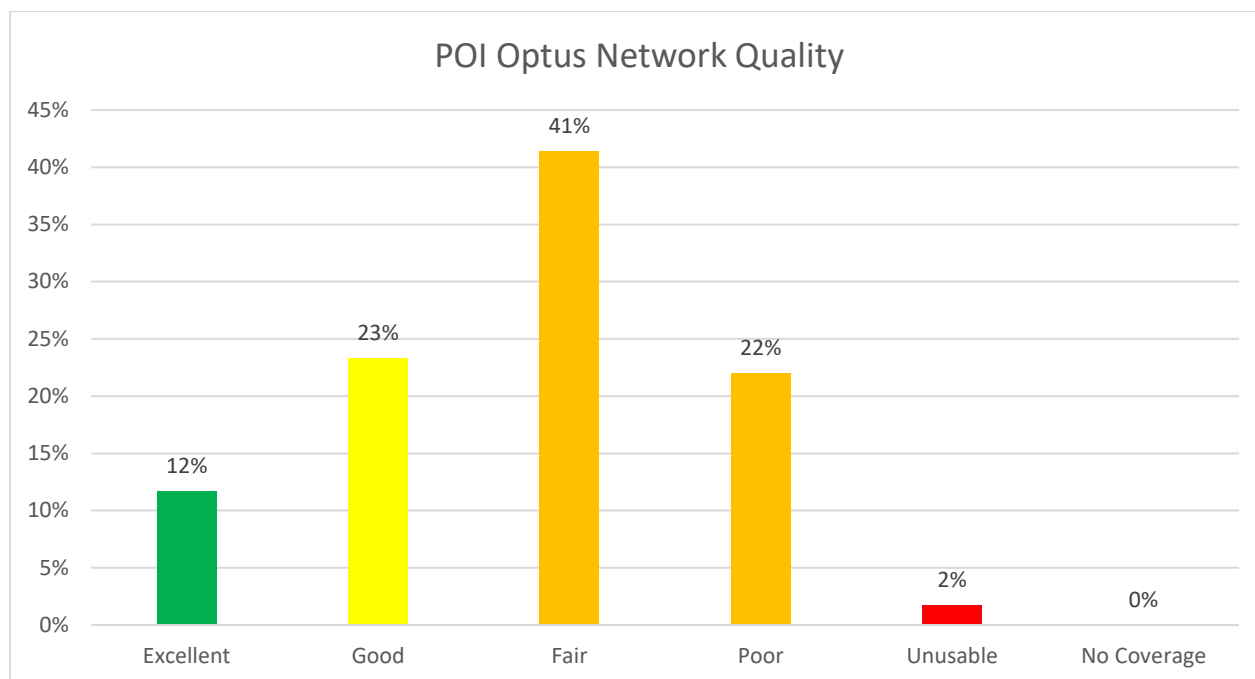


Figure 44 –POI Optus Mobile quality results

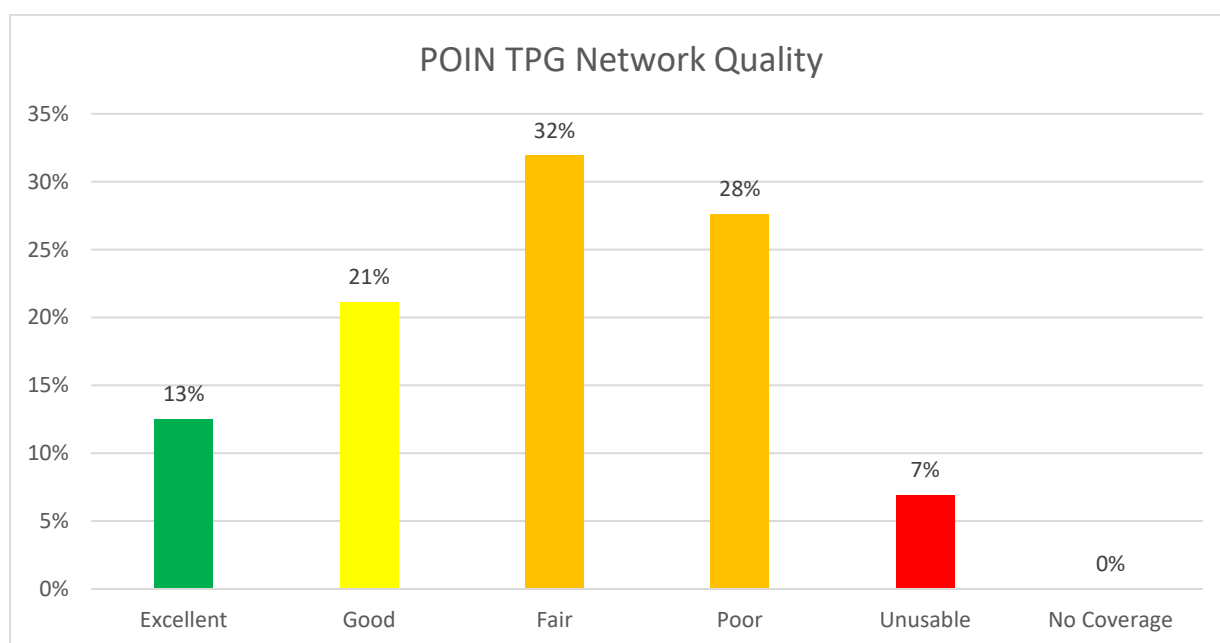


Figure 45 –POI TPG Mobile quality results

12.3 Road Network Coverage

City of Whittlesea requested that testing was undertaken on the City of Whittlesea Road network as detailed in section 9.2 - City of Whittlesea Priorities & Study Area. Approximately 1,455 km of the network has been covered. A near field GIS analysis was undertaken to identify the network quality for each road segment from the Lands Victoria TR_ROADS (Road Network - Vicmap Transport) data set. The near field analysis used the closest test marker point within a maximum of 50 metre radius from the road segment.

There were 2,083 road segments analysed using the near field method. It is important to note that road segments are between 500m to 5km in length in the City of Whittlesea areas, but possibly over 5km in length in isolated areas with uniform conditions.

5G coverage was disregarded from the statistic due to the poor coverage of 5G of all carriers in the municipality. Of the road segments tested, 20% had unusable or no coverage, meaning that successfully making a triple zero call in these areas would be problematic. The list of the coverage for all road segments is listed in Appendix 26 – Road Network Coverage

Individual carrier's results confirmed that Optus had POI coverage with only 15% had unusable or no coverage. Telstra the greatest combined excellent and good coverage of 40% compared to 27% Optus and 25% TPG Vodafone.

There are 19 road segments that have unusable or no coverage from all carriers.

Road Name	Descriptor	Locality	Latitude	Longitude
Merriang Road	Near 1370 Merriang Rd	Beveridge	-37.51583	145.02634
Grants Road	Near 213 Grants Rd	Eden Park	-37.52191	145.05057
Vearings Road	Near Harvet Home Rd	Epping	-37.62173	144.98754
Vearings Road	Near Vearing Rd Drain	Epping	-37.62797	144.98627
Humevale Road	North of Scrubby Creek	Humevale	-37.50121	145.20906
Humevale Road	North of Scrubby Creek	Humevale	-37.50206	145.20492
Humevale Road	North of Scrubby Creek	Humevale	-37.50219	145.20104
Humevale Road	North of Scrubby Creek	Humevale	-37.50208	145.19310
Humevale Road	North of Scrubby Creek	Humevale	-37.49983	145.18998
Humevale Road	North of Scrubby Creek	Humevale	-37.50056	145.18637
Humevale Road	North of Scrubby Creek	Humevale	-37.49554	145.22060
Whittlesea - Yea Road	East of Hawkes Rd	Humevale	-37.49012	145.21317
Gorge Road	Near Middle Gorge Park	South Morang	-37.65046	145.10279
Gorge Road	Near Middle Gorge Park	South Morang	-37.64949	145.10291
Gorge Road	Near Middle Gorge Park	South Morang	-37.64958	145.10391
Donnybrook Road	Near Woodstock Community	Woodstock	-37.54960	145.03507
Merriang Road	Near Donnybrook Rd	Woodstock	-37.54910	145.03059
Monakeeba Boulevard	New Estate	Woodstock	-37.53720	145.02395
Selkirk Road	Near O'Sullivan's Rd	Woodstock	-37.54124	145.06957

Table 12 – Road segments with unusable or no coverage

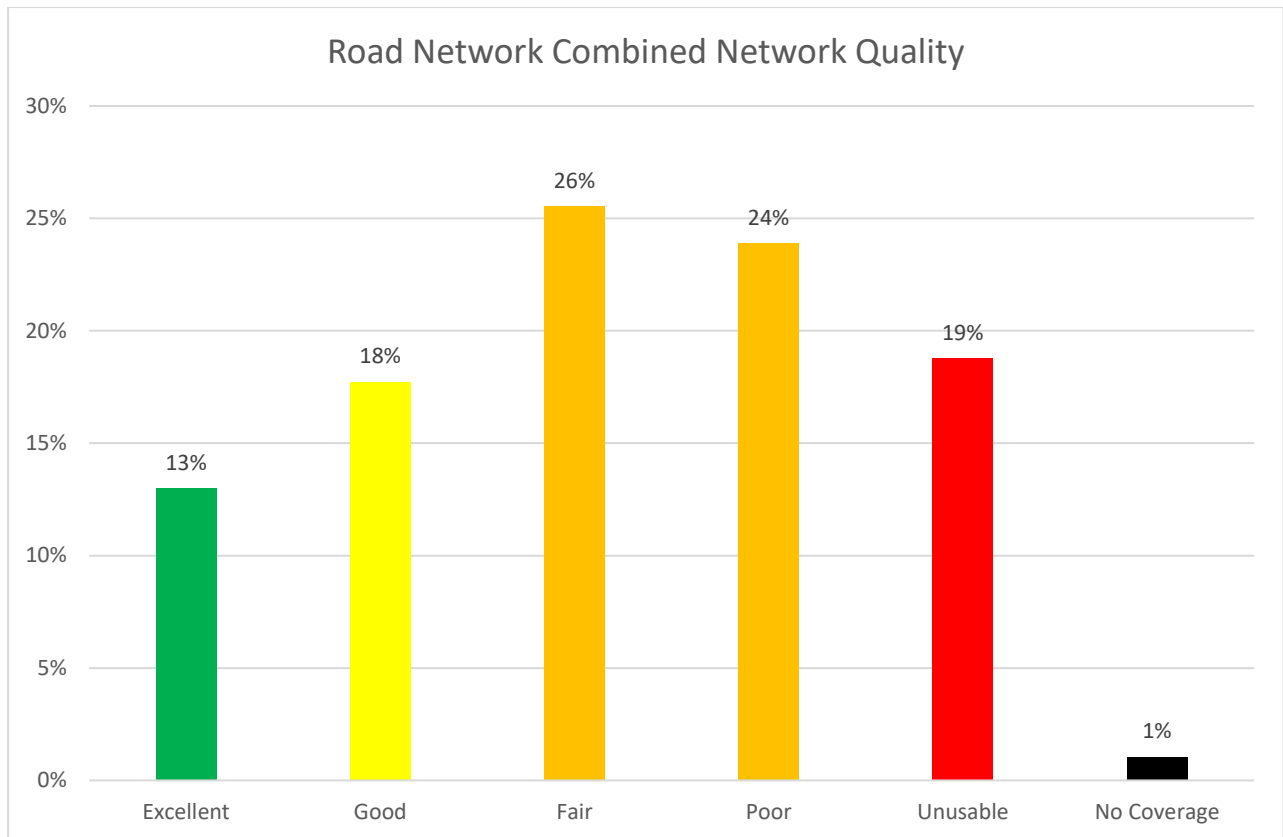


Figure 46 – Road Network Combined Mobile coverage results

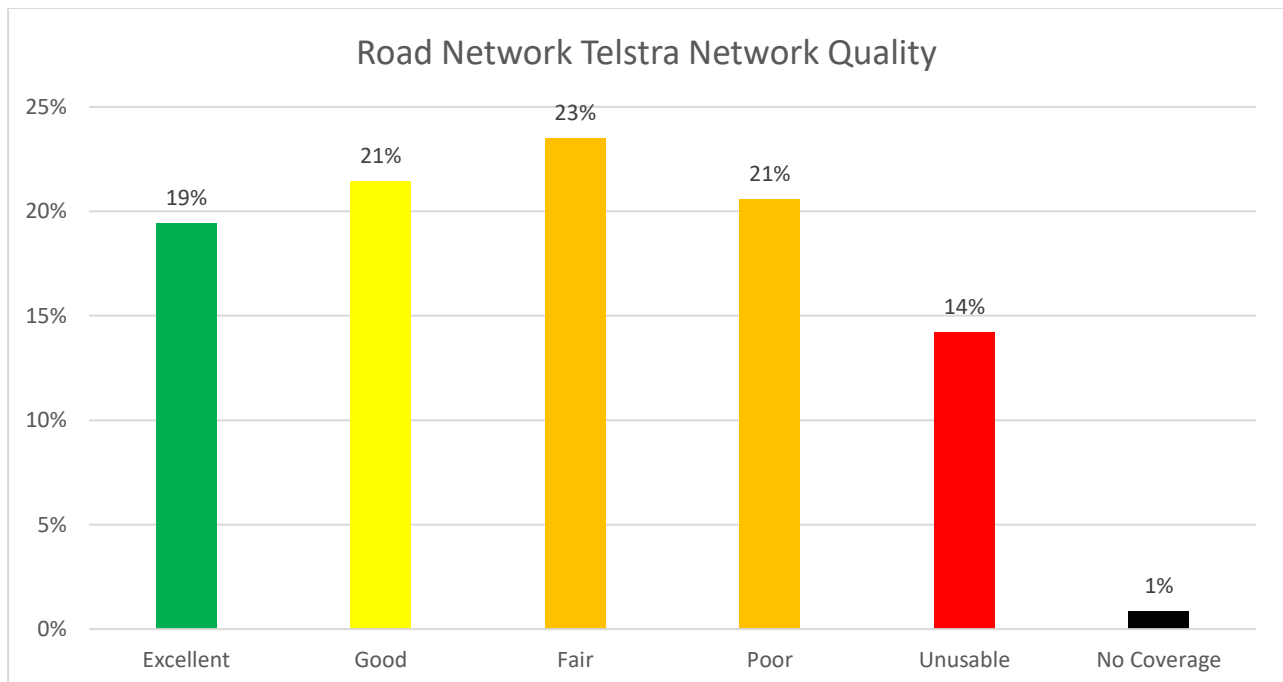


Figure 47 – Road Network Telstra Mobile coverage results

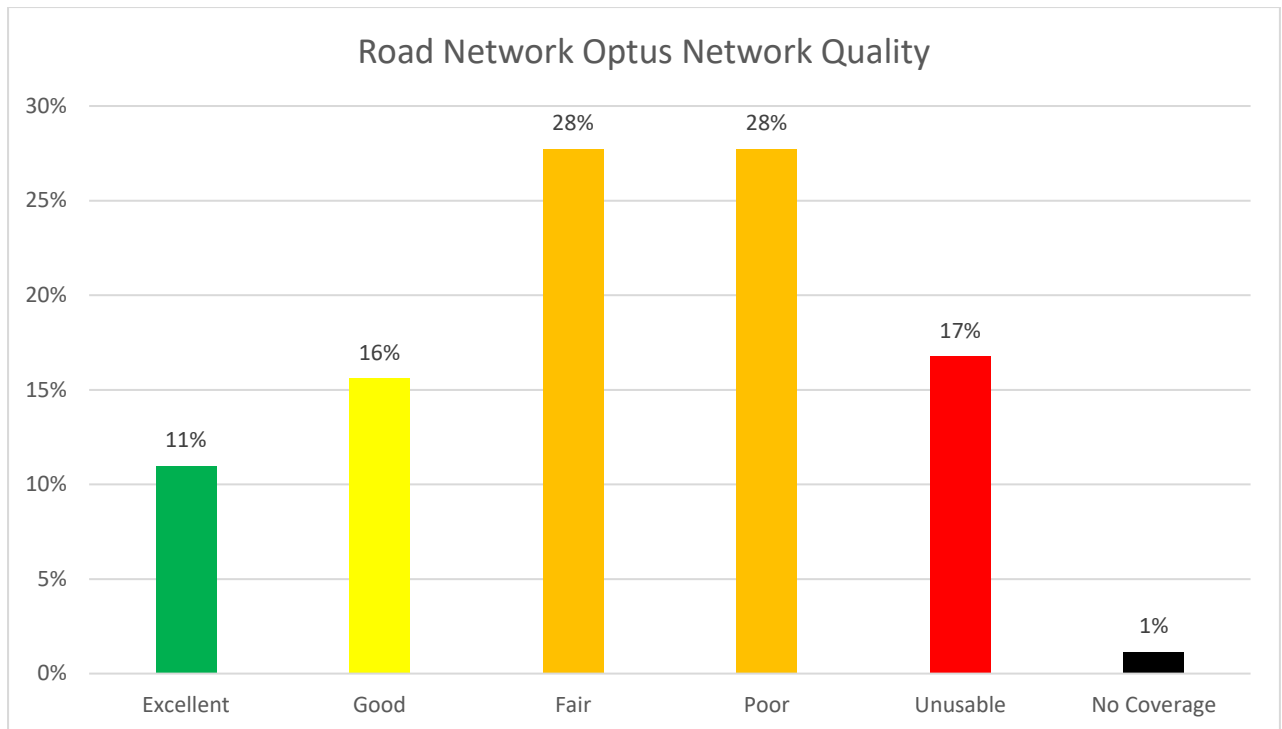


Figure 48 – Road Network Optus Mobile coverage results

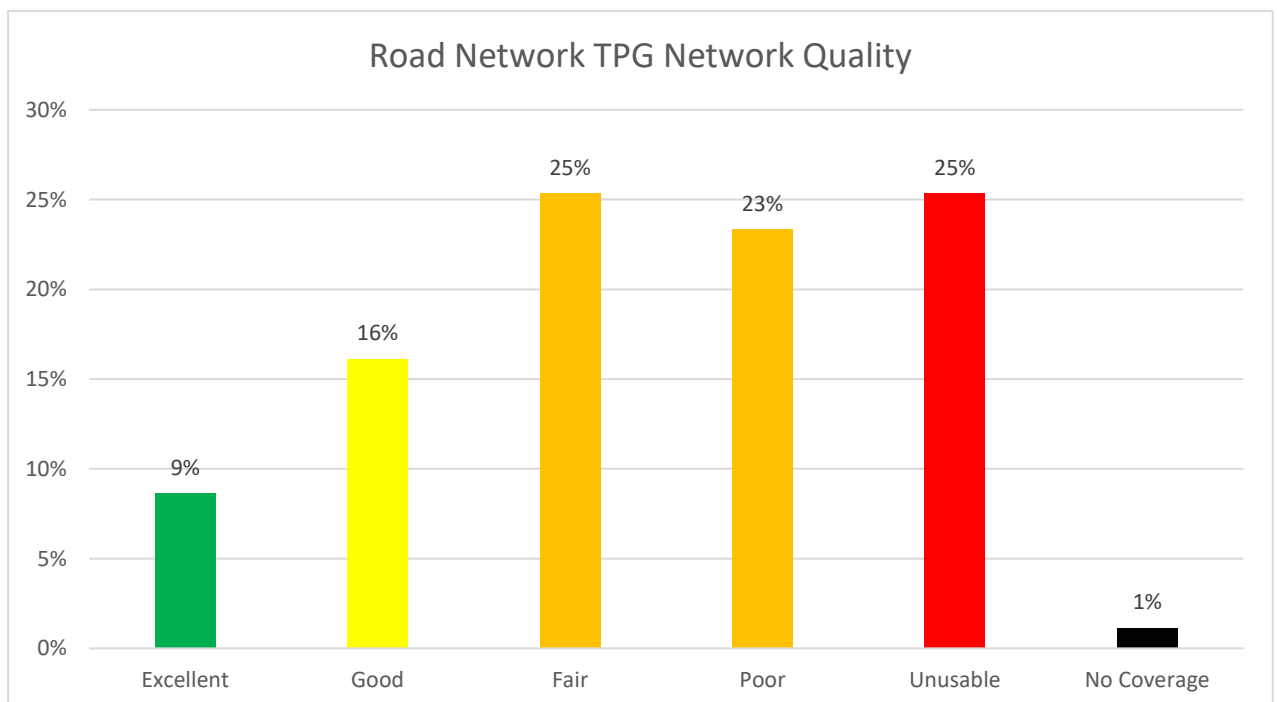


Figure 49 – Road Network TPG Vodafone Mobile coverage results

12.4 Bus Stop Network Coverage

City of Whittlesea requested that testing was undertaken at all bus stops located on the road network within City of Whittlesea.

5G coverage was disregarded from the statistic due to the poor coverage of 5G of all carriers in the municipality. Of the bus stops tested, 7% had unusable or no coverage. The list of the coverage for all bus stops is listed in Appendix 27 – Bus Stop Network Coverage

Individual carrier's results confirmed that Telstra had only 1 bus stop with unusable or no coverage and Telstra has the greatest combined excellent and good coverage of 52% compared to 36% Optus and 33% TPG Vodafone.

There was only one bus stop that had no or unusable coverage with all carriers, being Stop 4849 at Bridge Inn Rd/Bassetts Rd, Doreen.

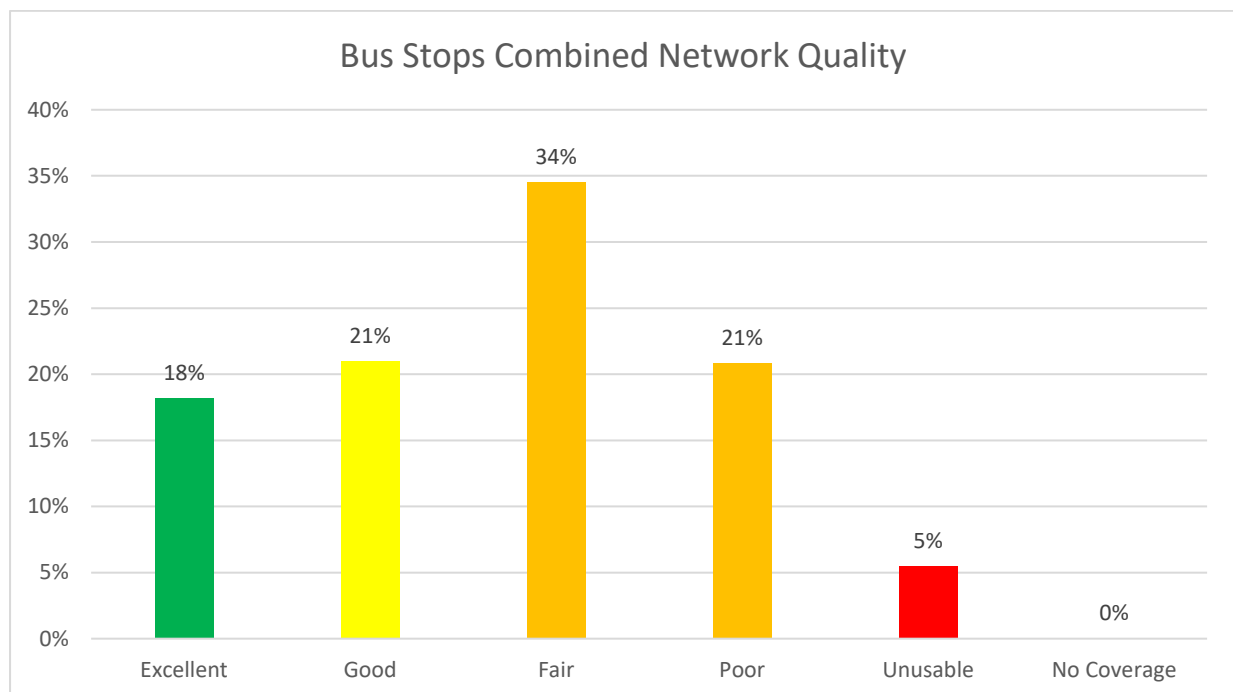


Figure 50 – Bus Stops Combined Mobile coverage results

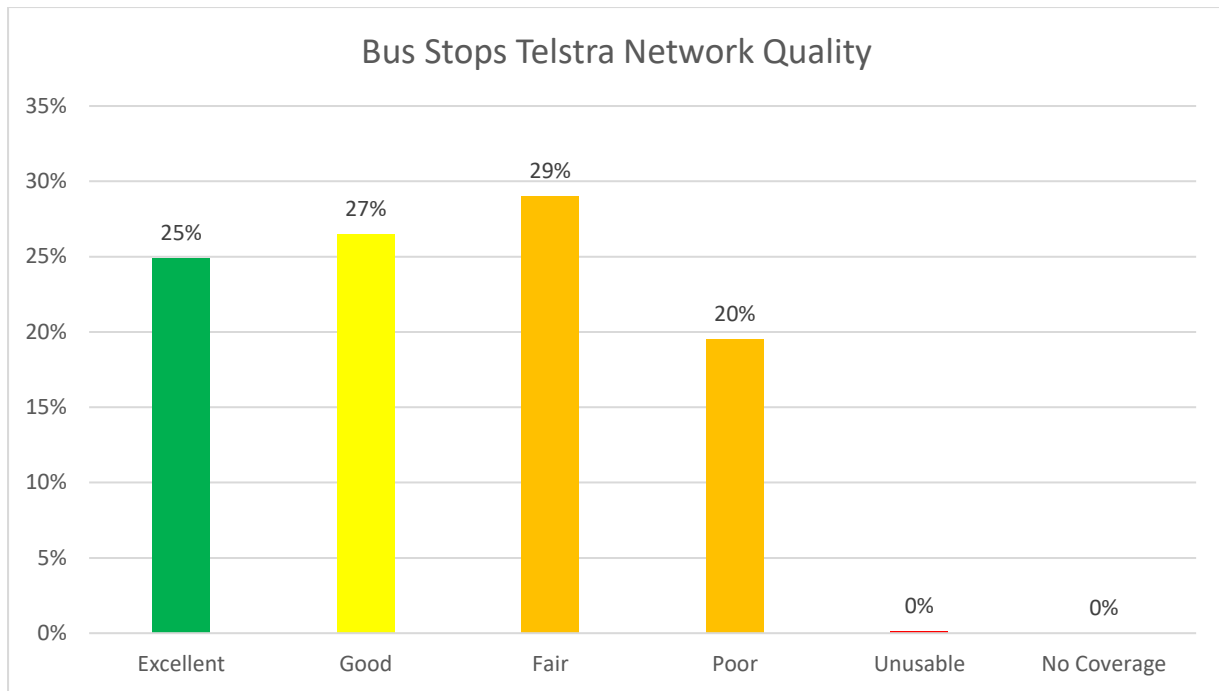


Figure 51 – Bus Stops Telstra Mobile coverage results

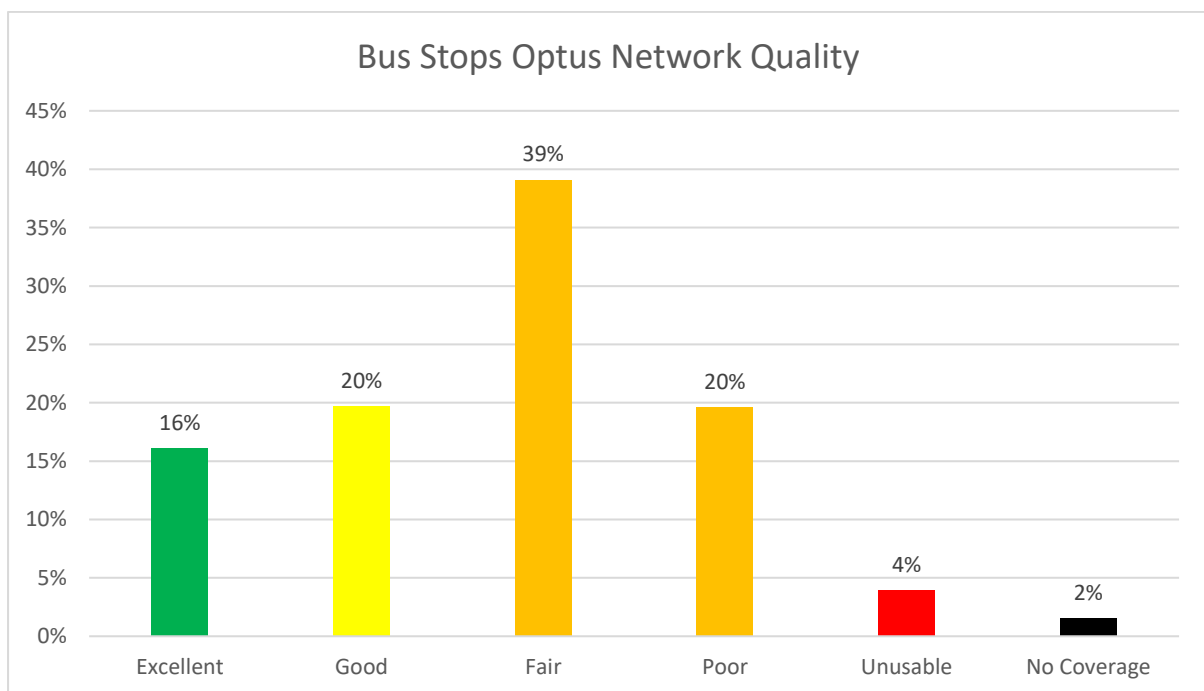


Figure 52 – Bus Stops Optus Mobile coverage results

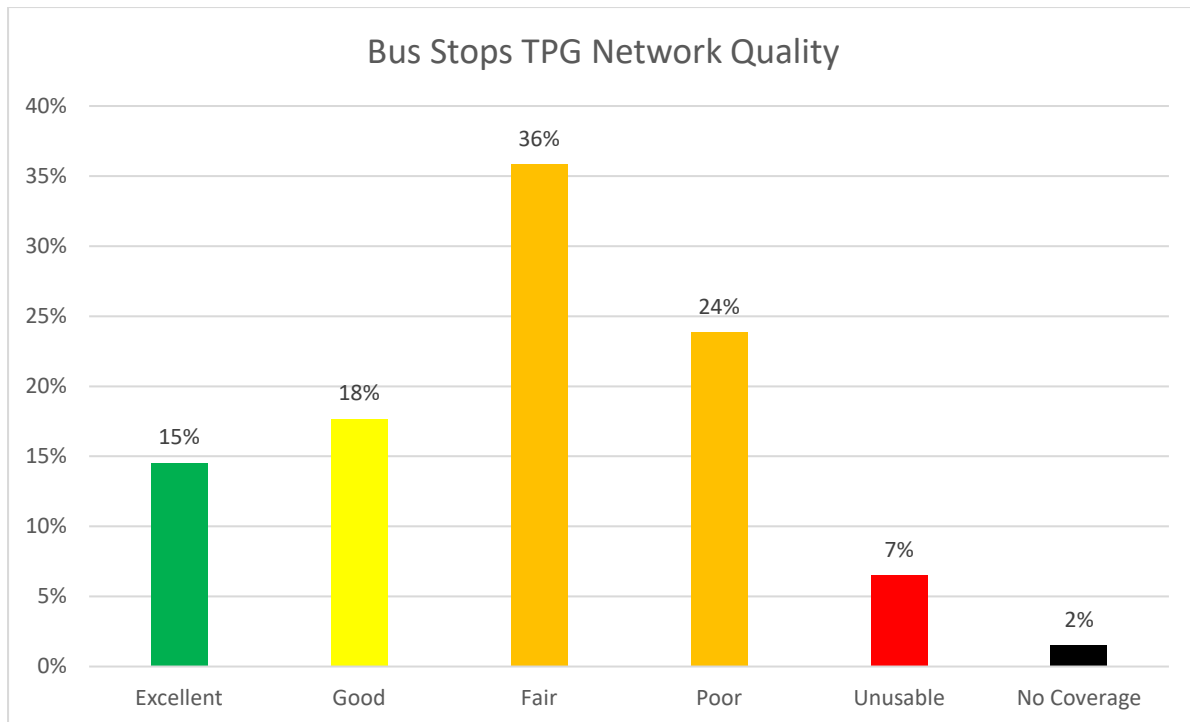


Figure 53 – Bus Stops TPG Vodafone Mobile coverage results

13. Telecommunication Network Risk and Resilience

Telecommunications infrastructure is extremely vulnerable to mains power outages. These telecommunications infrastructure networks, and sites, require concentrated power systems to deliver the demands of their respective infrastructure needs. Additionally, many sites also require power for building heating, cooling, and humidity control equipment to keep them operational.

These power vulnerabilities pose a significant risk to users, particularly those in remote or rural areas, or with critical personal safety devices.

Natural disasters such as bushfire and severe storm events pose significant risk to power infrastructure that services critical NBN and mobile phone networks.

On 13 February 2024, parts of Victoria experienced a severe weather event with strong winds and heavy rains, causing trees and power lines to fall and several rivers to flood. Severe weather, including torrential rain, snow, and strong winds of over 120 km/h (74 mph) lashed Victoria. The City of Whittlesea municipality was an impacted area. The catastrophic storm event that damaged 12,000 km of powerlines and poles across the state's electricity distribution businesses, causing power outages that impacted more than 500,000 homes and businesses. As a result, all localised NBN and mobile phone communications services suffered prolonged network outages.

While it is still unknown how many mobile phone towers suffered direct damage from the storm³⁰, it is estimated more than 90% of the communication outages were directly caused from the power outages.³¹

The February storm event in the City of Whittlesea exemplifies the risk to critical communications infrastructure such as the NBN and mobile phone networks, from severe weather events and natural disasters. These outages not only pose imminent risk to life (inability to call 000 for immediate assistance), but impact the recovery process and ongoing business continuity, causing local economic harm and disadvantage.

Based on the scientific evidence now available, it is clear that human-caused climate change has already influenced various weather and ocean hazards in Australasia. Scientific research has established that human-caused greenhouse gas emissions are the primary cause of climate change including long-term trends such as global warming and rising sea levels. Increasing atmospheric greenhouse gas concentrations into the future will continue amplifying many weather and ocean hazards. These will lead to extreme heat events, extreme rainfall and storms, bushfires, and flooding.³²

Based on this risk profile it is encouraged that City of Whittlesea undertake direct advocacy to ensure critical communications networks are hardened, to ensure power resilience, backhaul links are provided underground or utilise resilient wireless technologies, and the NBN network supports power resilience to vulnerable communities to ensure an "always connected" community.

³⁰ Carriers are not obligated to publicly report outages.

³¹ Based on recent events like the 2020 bushfire, Black Saturday bushfires and Hurricane Katrina (USA), communication outages as a direct result of site damage usually equate to under 10% of total site outages.

³² AFAC Climate Change and Disasters, Key Messages and Resources | November 2020, P 5

13.1 NBN Power Risk and Resilience

One of the most significant risks of the NBN fixed broadband network is that any equipment connected via the NBN broadband access network **will not work** during a power outage. The following list details how each form of technology used in the nb Multi Technology Mix (MTM) is affected by mains power outages.³³

Fibre to the Premises (FTTP) – nbn and Opticomm

In the instance of NBN Fibre to the Premises, NBN supplies and installs a connection junction within the home or business. This junction requires power to operate. The retail internet provider may supply a **battery back-up** as part of the Power Supply unit; however, this is not standard in all installations. The telephone component (if connected) will require a device that is not mains powered, like a cordless phone, to operate in a power outage, providing there is battery backup on the FTTP system. Information on FTTP battery back is available at the NBN [website](#).³⁴

nbn Fibre to the Building (FTTB)

Landline phone and internet services **will not work** in the event of a power outage within the Fibre to the Building network or within your premises. Using battery backup or other alternative power options is not possible if the NBN FTTB network is also experiencing a power outage.

nbn Fibre to the Curb (FTTC)

Landline phone and internet services **will not work** in the event of a power outage within the NBN Fibre to the Curb network or within your premises. Using battery backup or other alternative power options is not possible if the NBN FTTC network is also experiencing a power outage.

nbn Fibre to the Node (FTTN)

Landline phone and internet services **will not work** in the event of a power outage within the NBN Fibre to the Node network or within your premises. Using battery backup or other alternative power options is not possible if the NBN FTTN network is also experiencing a power outage.

nbn Hybrid Fibre Coaxial (HFC, also referred to as 'cable')

Landline phone and internet services **will not work** in the event of a power outage within the NBN HFC network or within your premises. Using battery backup or other alternative power options is not possible if the NBN HFC network is also experiencing a power outage.

nbb Fixed Wireless (FW)

Landline phone and internet services **will not work** in the event of a power outage at the NBN Fixed Wireless tower, fibre network or within your premises. Using battery backup or other alternative power options is not possible if the NBN Fixed Wireless tower is also experiencing a power outage.

nbn Sky Muster satellite

In the event of a power outage at your premises, using battery backup or other alternative power options will usually allow you to reconnect to the NBN Sky Muster satellite service. However, if one of

³³ <https://www.nbnco.com.au/learn/what-happens-in-a-power-blackout>

³⁴ Battery Backup information: <https://www.nbnco.com.au/learn/network-technology/fibre-to-the-premises-explained-ftp/battery-back-up-information>

the NBN Sky Muster satellite ground stations is also experiencing a power loss, there may be further delays in reconnecting your service. This is unlikely, however.

If the premises are located within a Fixed Wireless and Sky Muster satellite area, there may be the option of retaining the existing landline phone service active across the copper network. Traditional copper landlines provide a significantly high level of resilience to power outages, providing the telephone component is connected will require a device that is not mains powered, like a cordless phone.

In May 2020, the Federal Government announced that under the Strengthening Telecommunications Against Natural Disaster (STAND) program, \$7 million will be spent to install 2,000 NBN satellite services at rural and country fire service depots and designated evacuation centres, with 100 sites to receive batteries and solar panels. In addition, a community resiliency program of \$2.1 million would be spent on an information program over the following two bushfire seasons to promote "practical information and advice for communities and businesses about how to keep connected during emergencies".³⁵

Medical Alarms

The NBN provides a Medical Alarm Register. Any persons using the medical alarms on the NBN are encouraged to register those devices and usage with the NBN as system resiliency options can be discussed. However, it is important to note that this register will not guarantee these devices will work in a power outage.

13.2 Cellular Telecommunications Risk and Resilience

In Australia, most mobile phone towers are in an unhardened state. Site hardening refers to the collection of tools, techniques, and best practices to reduce vulnerability at mobile telephone sites, including battery systems, infrastructure and backhaul. This state allows the provision of up to 3 hours of battery back up to that mobile phone tower and equipment in the event of a mains power outage. In addition, recovery, and the charging of those batteries after a power outage event may take up to 24 hours to charge to a full state to be used again.

The decision on tower hardening is made solely by the respective cellular telecommunications carrier themselves. The risk of mobile phones towers failing due to power outages during emergencies is an extremely high risk to vulnerable communities.

A report from the Australian Communications and Media Authority (ACMA), in May 2020, examined the causes of mobile tower outages from 19 December 2019 to 31 January 2020, during the bushfire peak. Loss of power was the main cause of outages, being responsible for 88% of all outages over this period. Only 3% of mobile tower outages were the direct result of fire damage. Of the 1,390 total facilities that were impacted by the fires, only 1% of incidents were a direct result of fire damage.

As a response to the ACMA report, in May 2020, the federal government announced a \$37.1 million campaign program, Strengthening Telecommunications Against Natural Disaster (STAND), to improve the resiliency of the nation's telecommunications infrastructure. The program was broken down into four parts, with the largest portion allocated towards upgrading battery backup power at mobile base

³⁵ <https://www.zdnet.com/article/australian-telco-networks-to-get-au37-million-disaster-resiliency-boost/>

stations under the Mobile Network Hardening Program name. A total of \$18 million was spent on the hardening program, which includes \$10 million from the Mobile Black Spot Program.

Mobile phones towers (base stations) funded under the first two rounds of the blackspot program would have backup power duration extended from 3 to 8 hours to at least 12 hours, if possible. A grant program was also created to fund 50% of the capital expenditure for upgrades at high priority locations and could include backup power or hooking up redundant backhaul at towers and exchanges.

However, these decisions on hardening were still under the control of the respective telecommunications carriers, and the Department of Communications hardening guidelines were advisory not legislative.

Many regional communities have taken the lobbying for hardening into their own hands. Successful lobbying efforts by the Resilient Communities Adelaide Hills Group³⁶, forced the realisation of a private members bill for the Guaranteeing Mobile Phone Service in Bushfire Zones³⁷. However, the bill was not passed by the government.

The hardening of mobile phone towers is a complex and complicated issue, particularly as the main driver for the three cellular telecommunications carriers is an economic one.

When working with the carriers, a collaborative approach is encouraged. The complexities that can be overcome using a collaborative model between the carriers and council, can assist to streamline planning and permit processes for new communications sites. This approach should not solely be limited to mobile phone towers but can include backhaul pathways and system power resilience.

It is also encouraged that the City of Whittlesea:

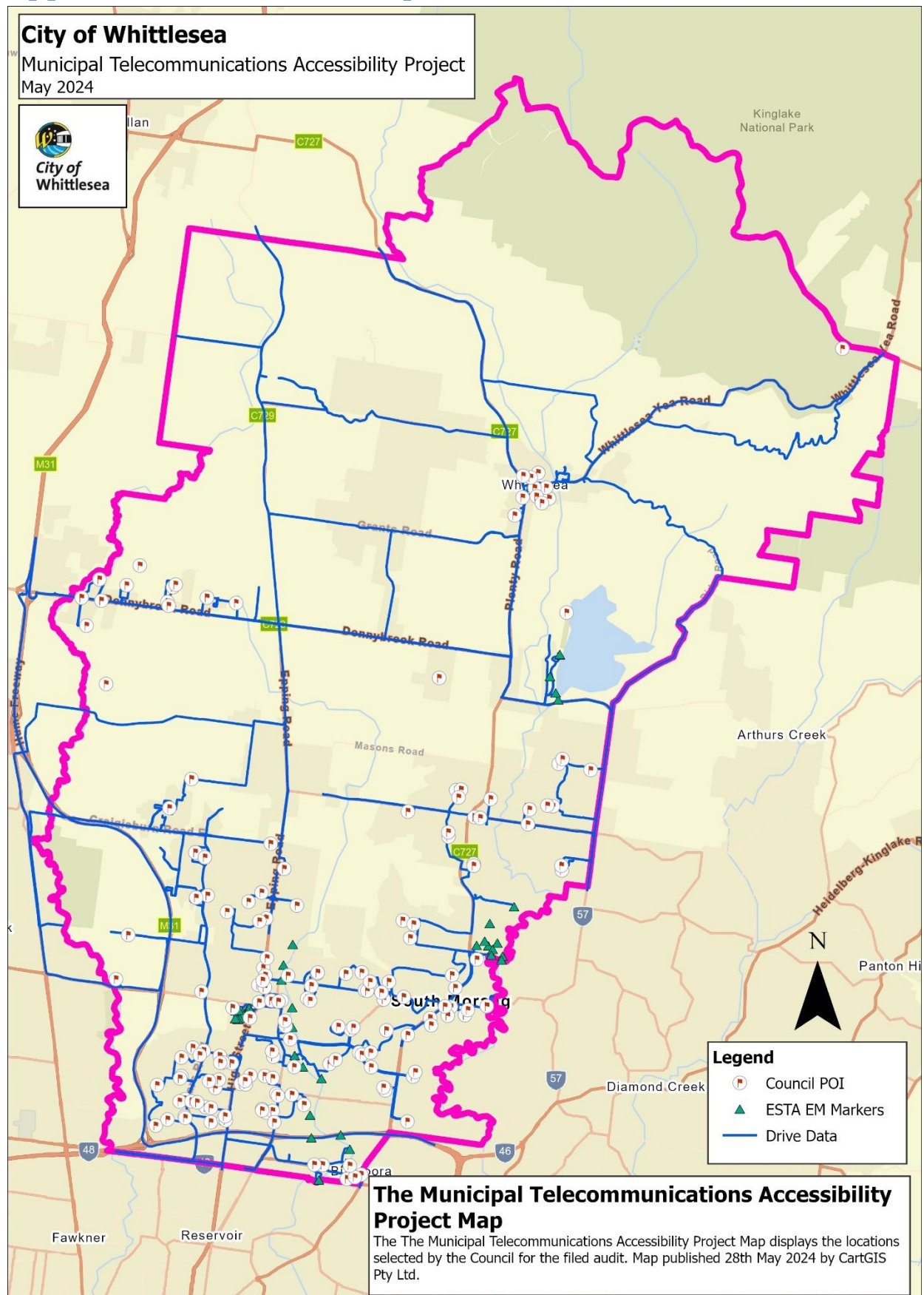
1. Join the national conversation pushing carriers to provide coverage for vulnerable communities and disaster-prone areas, especially as the 5G rollout will reduce coverage footprint.
2. Advocate for policy and legislation change.
3. Advocate for changes to the MBSP, PUMP and MNHP criteria.

Although ensuring coverage is the driving criteria for the MBSP and PUMP, City of Whittlesea should be advocating to ensure system and site resilience is promoted amongst the carriers to ensure communities are not left vulnerable and suffer communications outages when they are needed the most and do so through the MNHP.

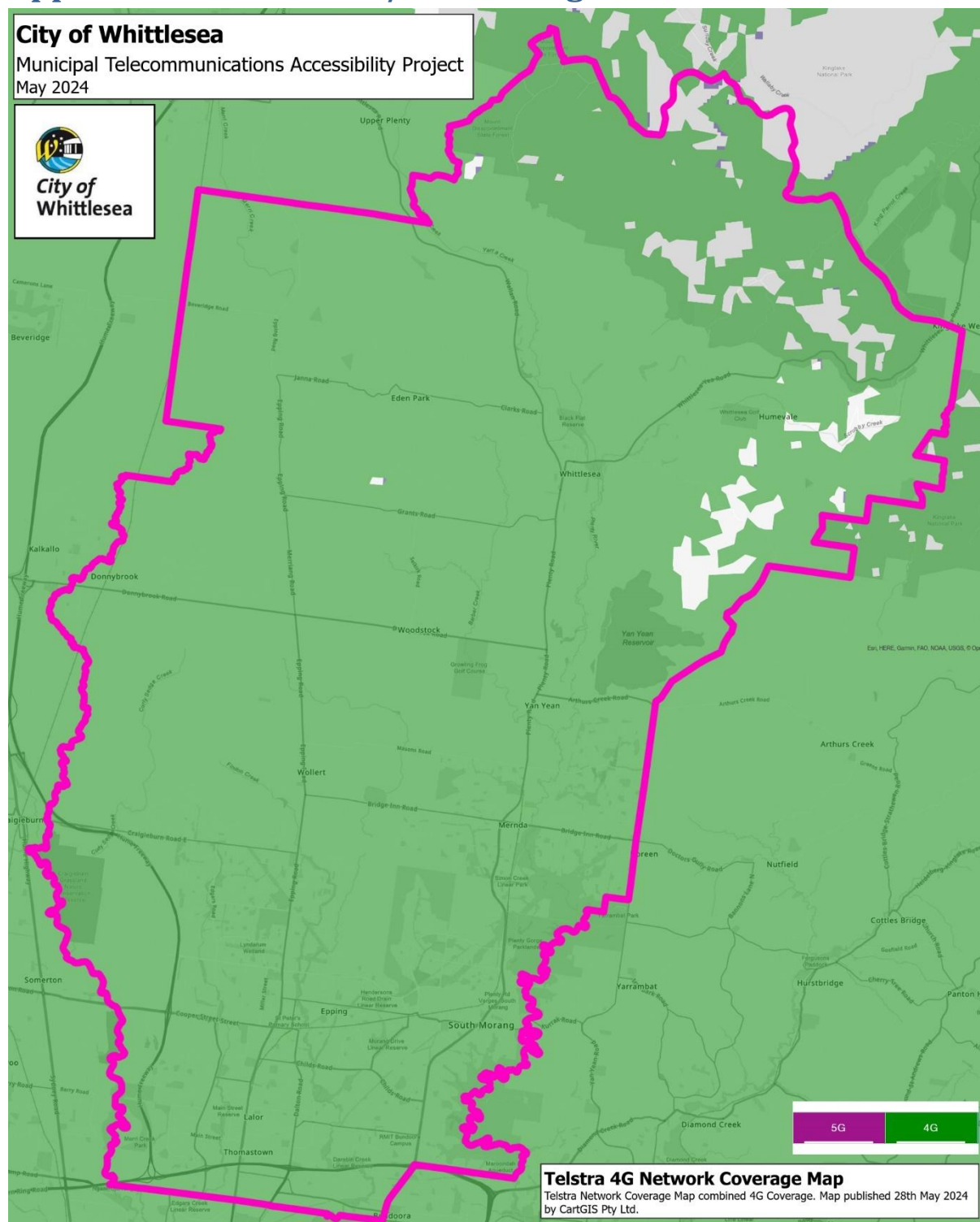
³⁶ <https://www.stockjournal.com.au/story/4884287/blackout-bill-aims-to-protect-regional-areas/>

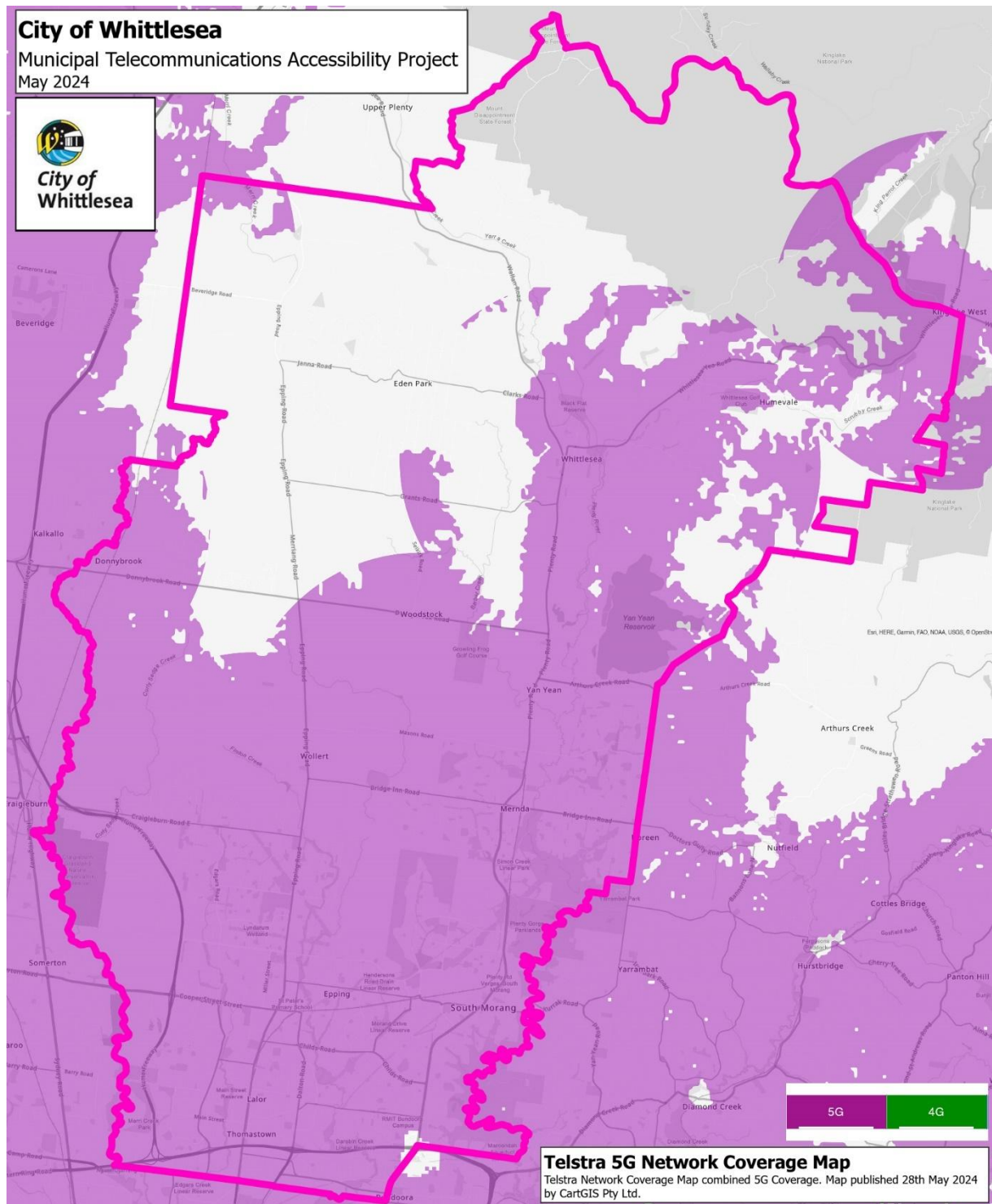
³⁷ <https://parlinfo.aph.gov.au/parlInfo/search/display/display.w3p;page=0;query=BillId:r5954%20Reconstruct:billhome>

Appendix 1 – Drive Test Map with POIs

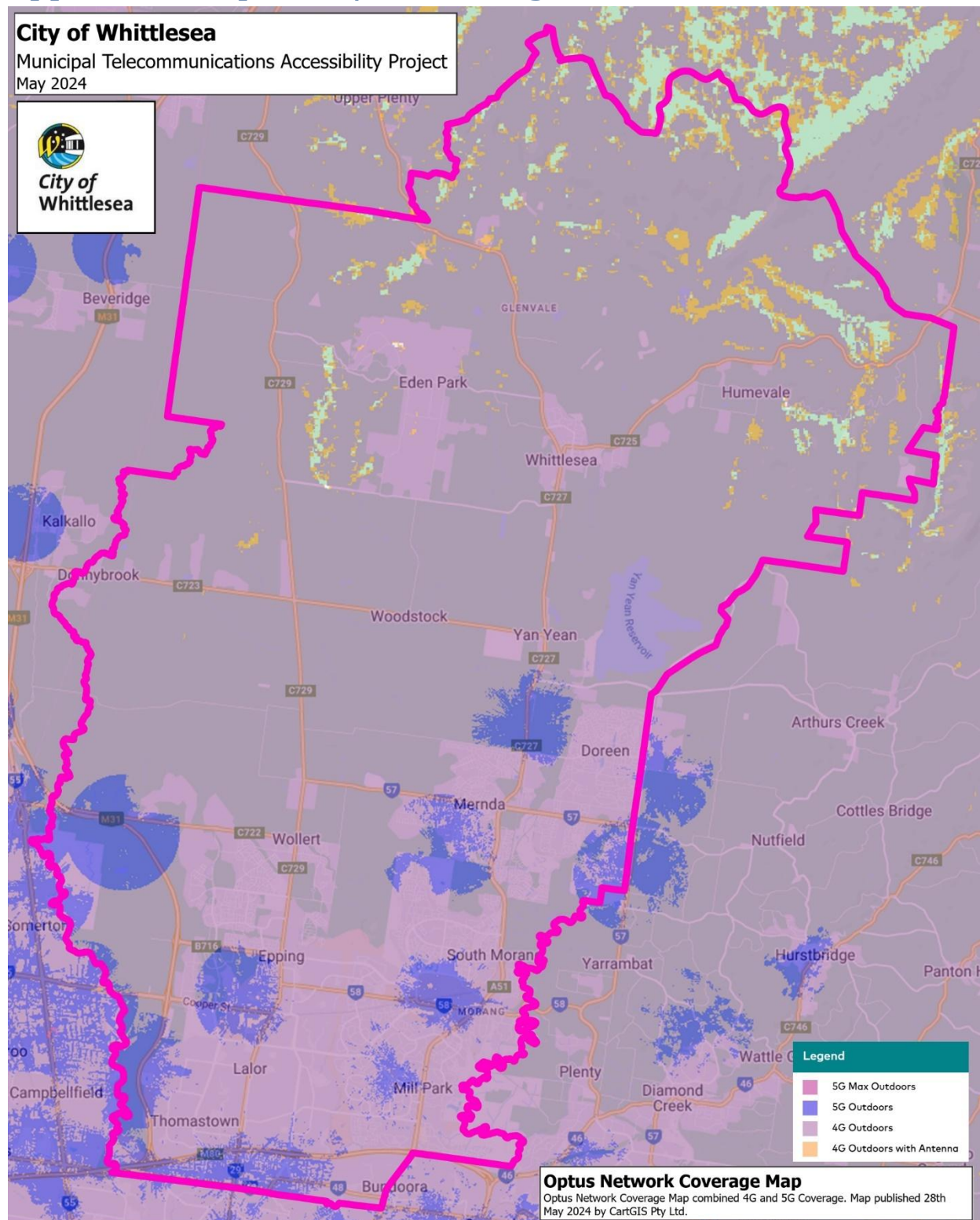


Appendix 2 – Telstra 4G/5G Coverage

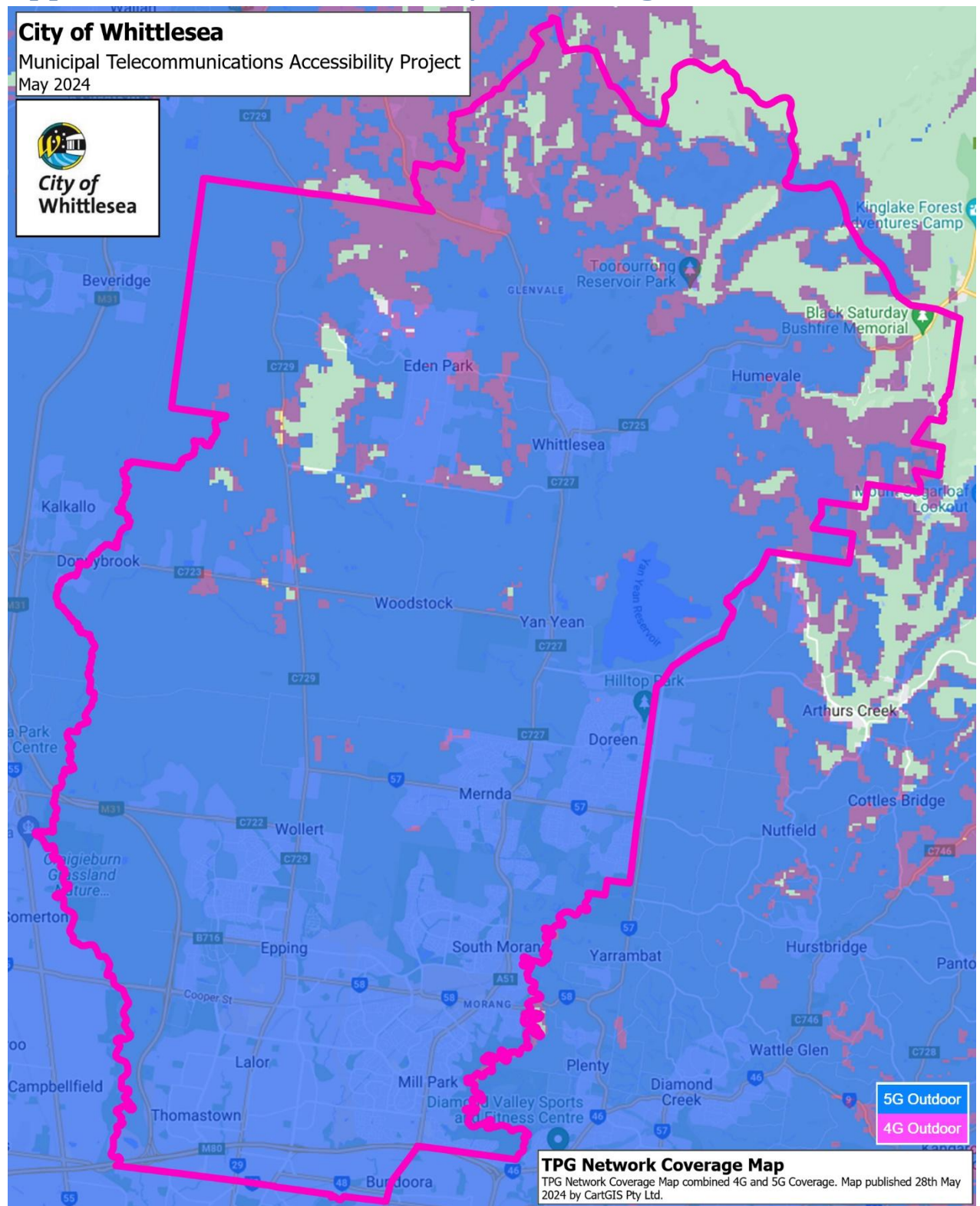




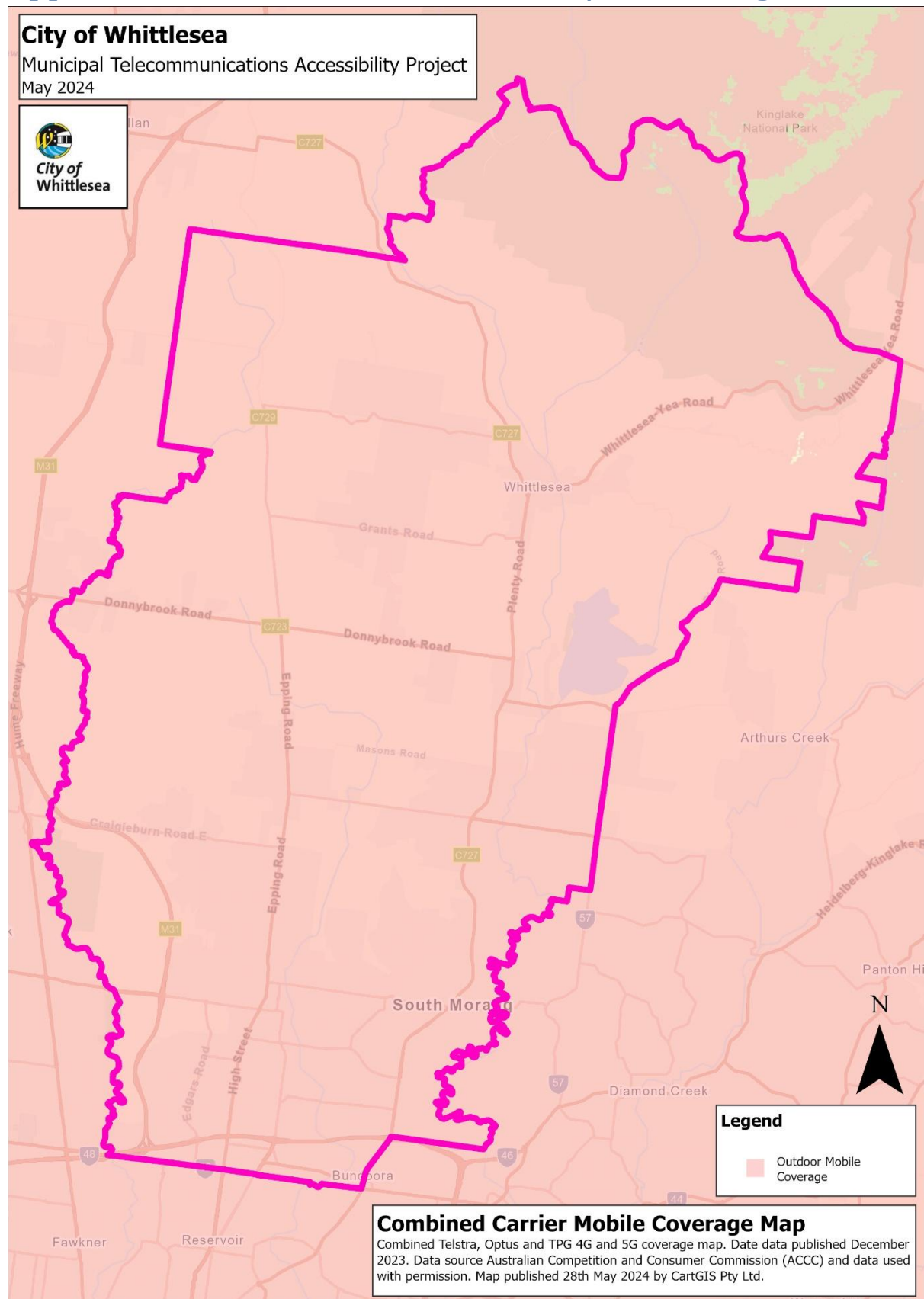
Appendix 4 – Optus 4G/5G Coverage



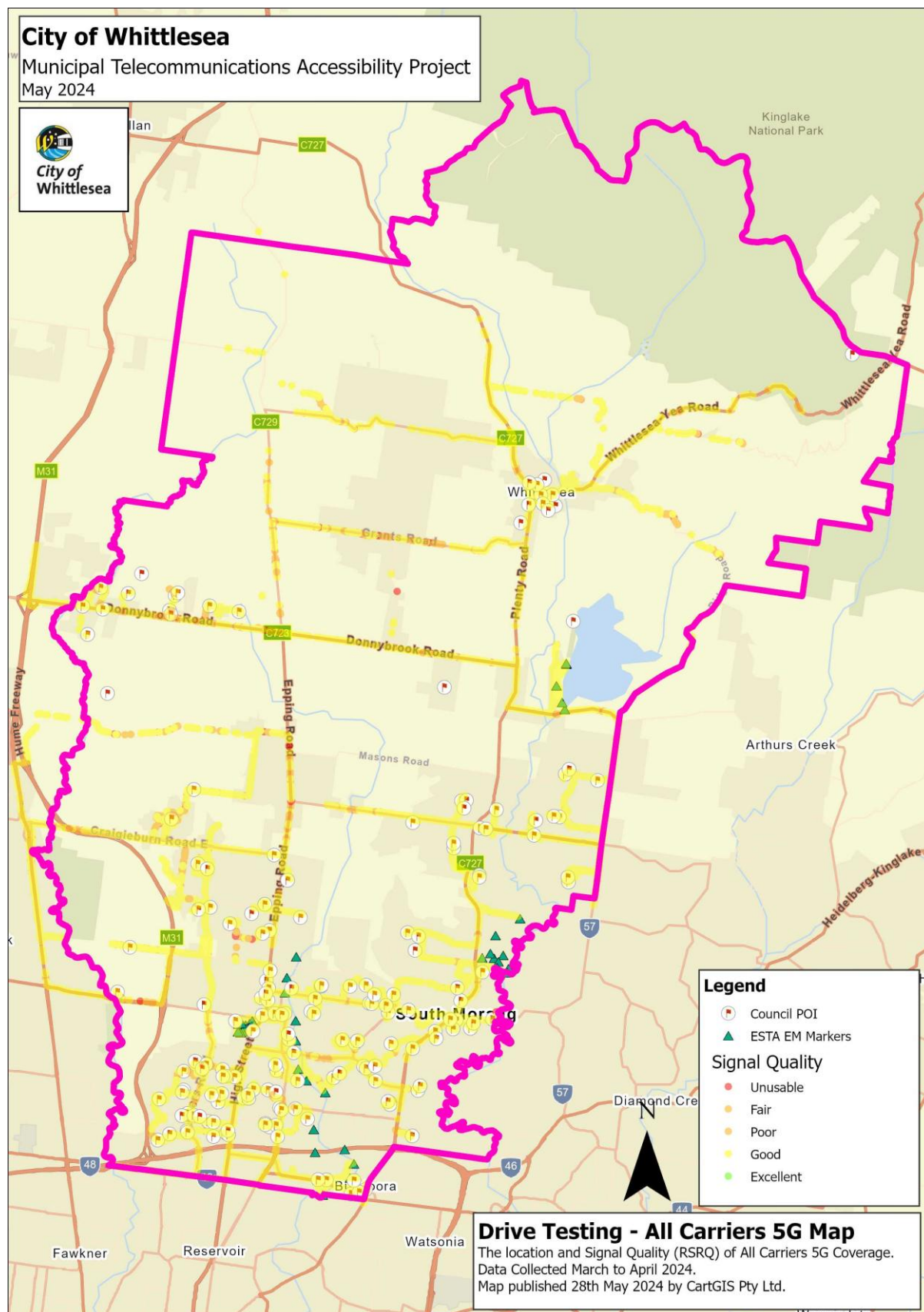
Appendix 5 – TPG Vodafone 4G/5G Coverage



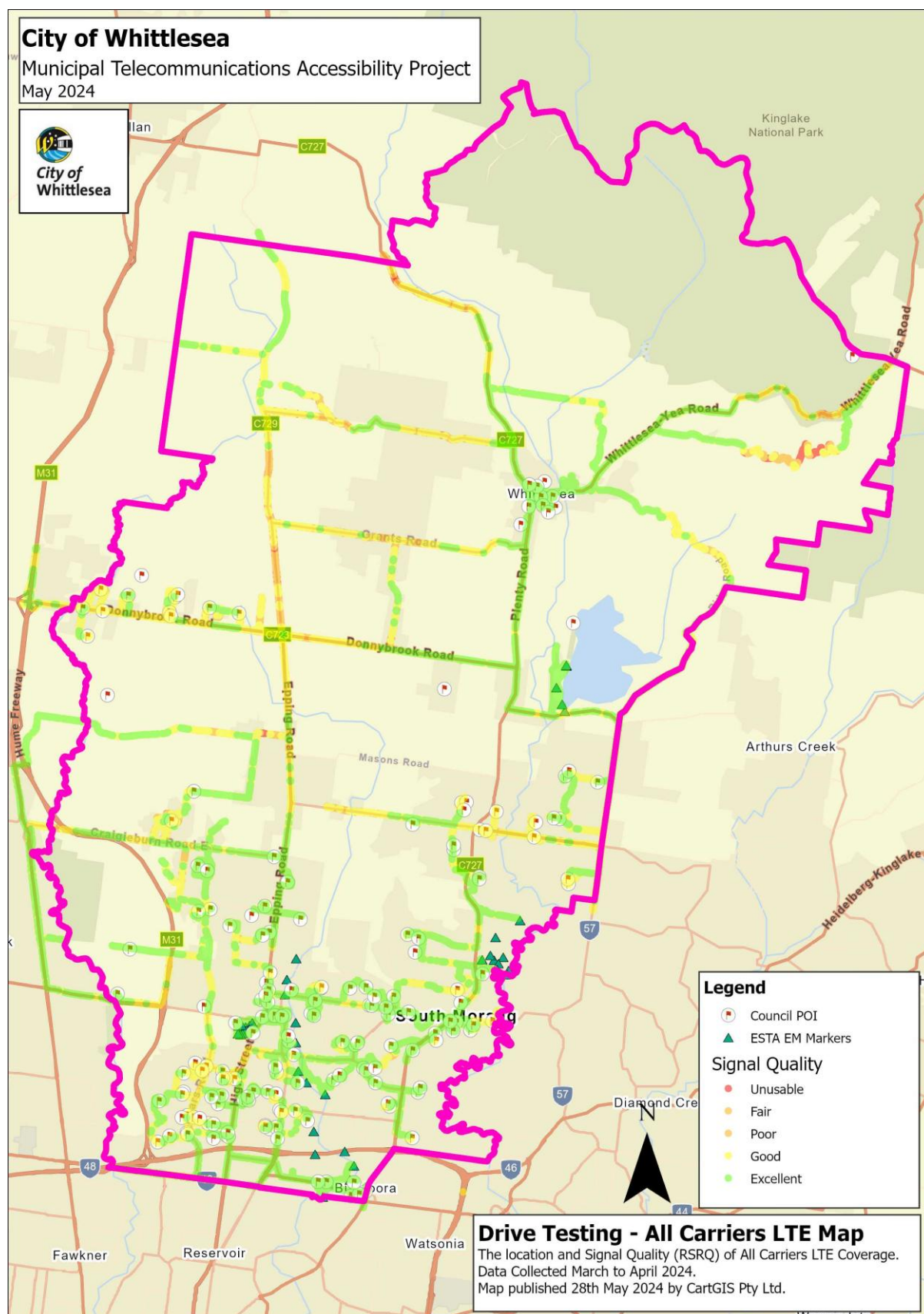
Appendix 6 – All Carriers Combined 4G/5G Coverage



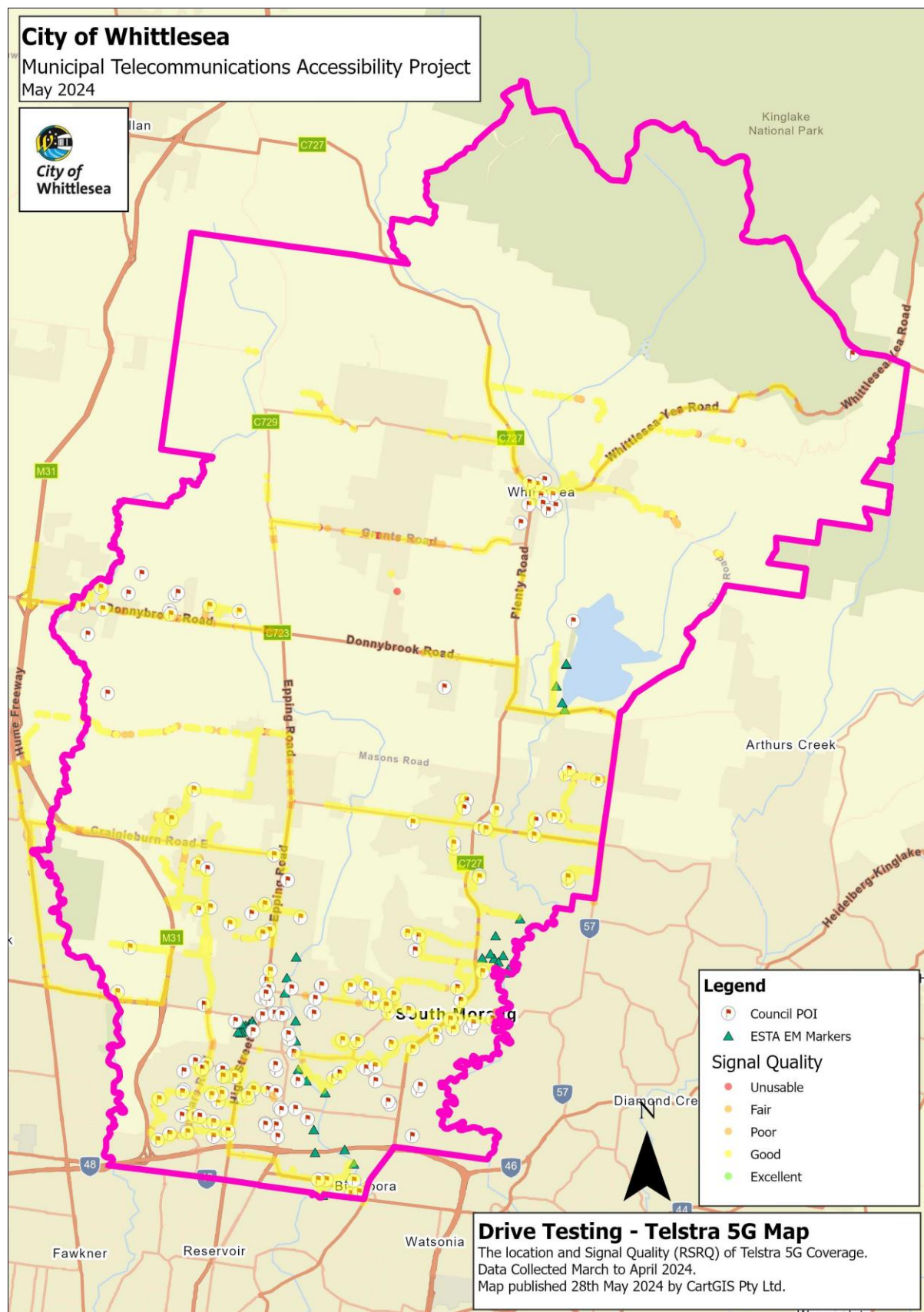
Appendix 7 – All Carriers Combined 5G network quality



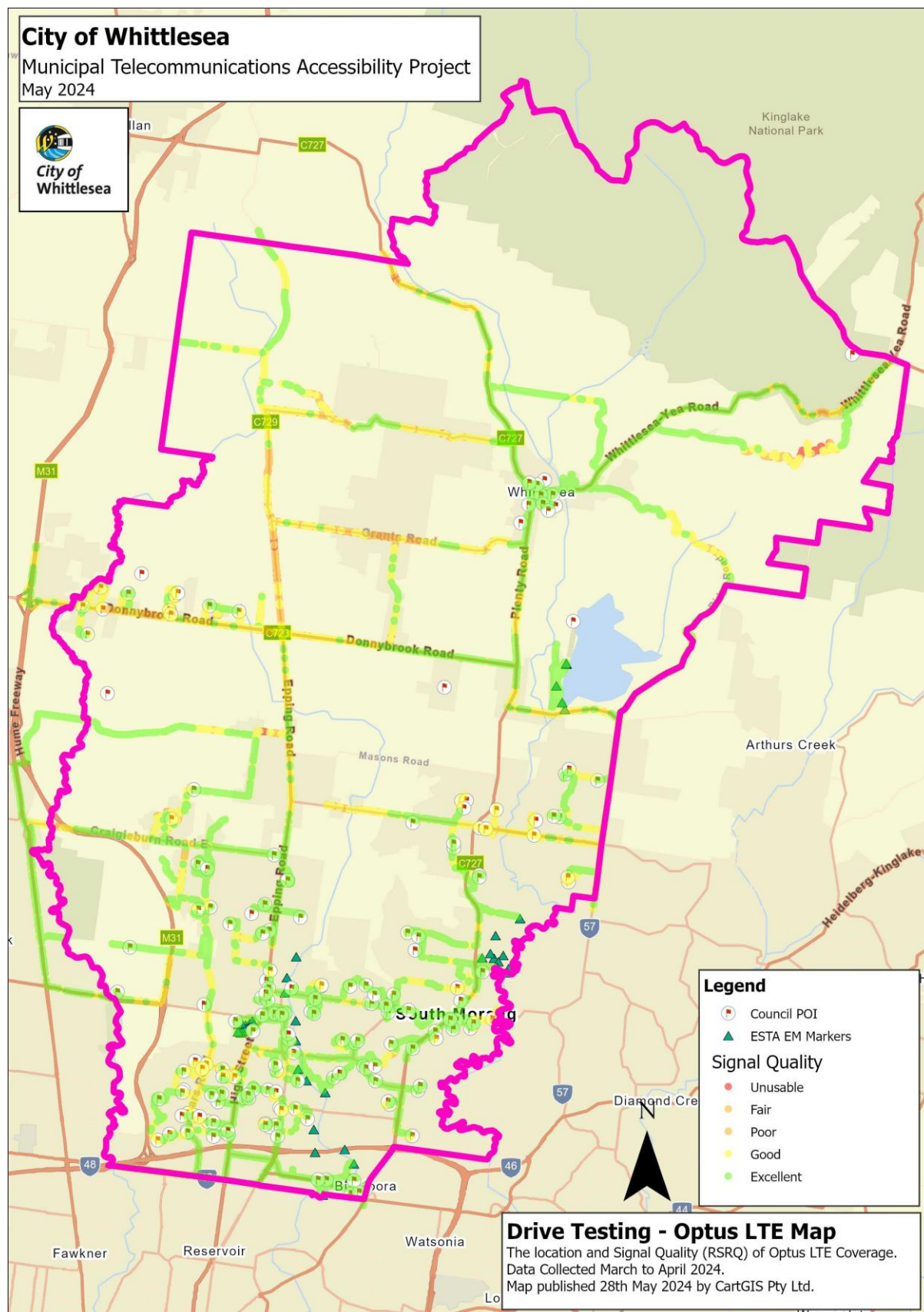
Appendix 8 – All Carriers Combined 4 G network quality



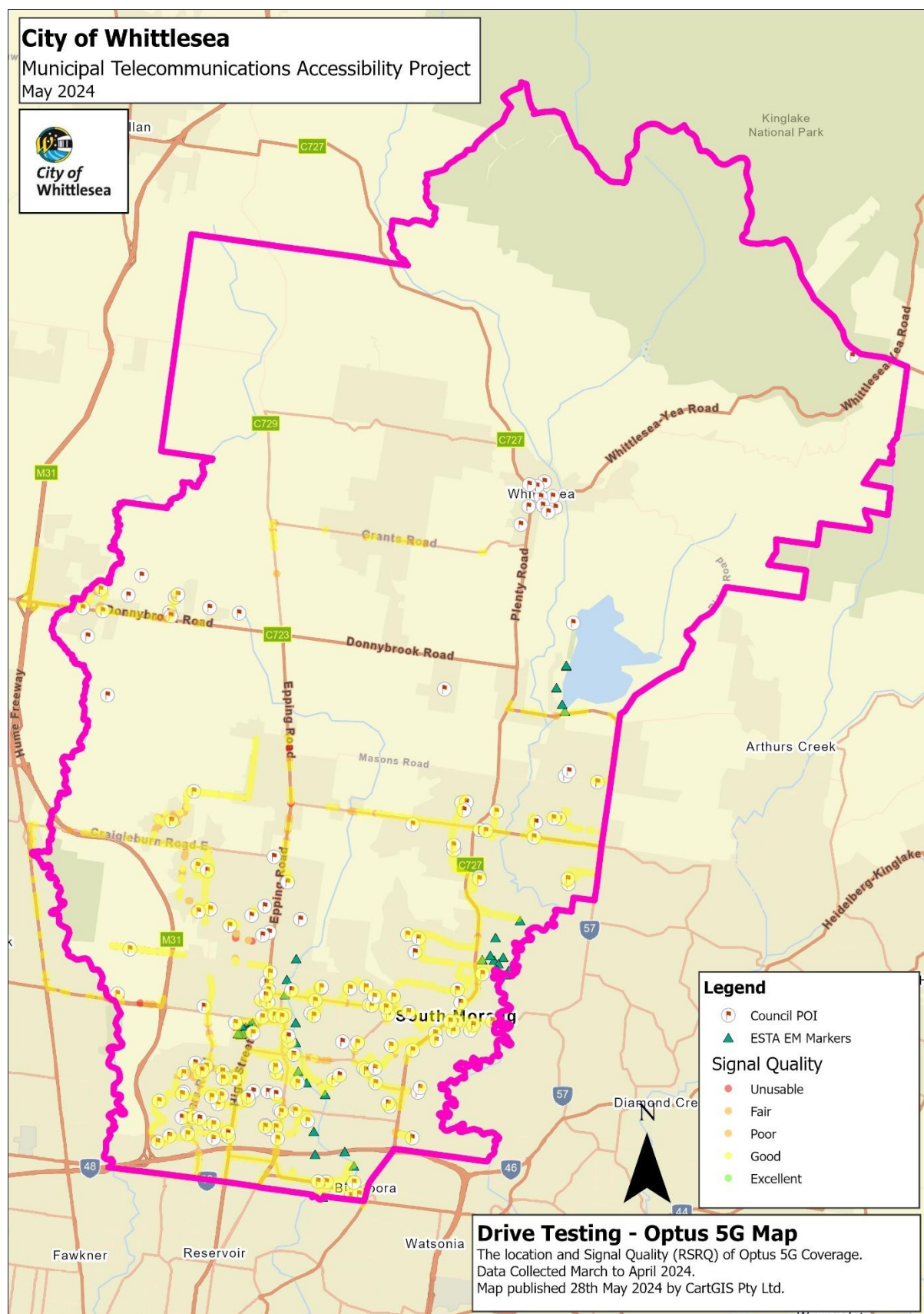
Appendix 9 – Telstra 5G network quality



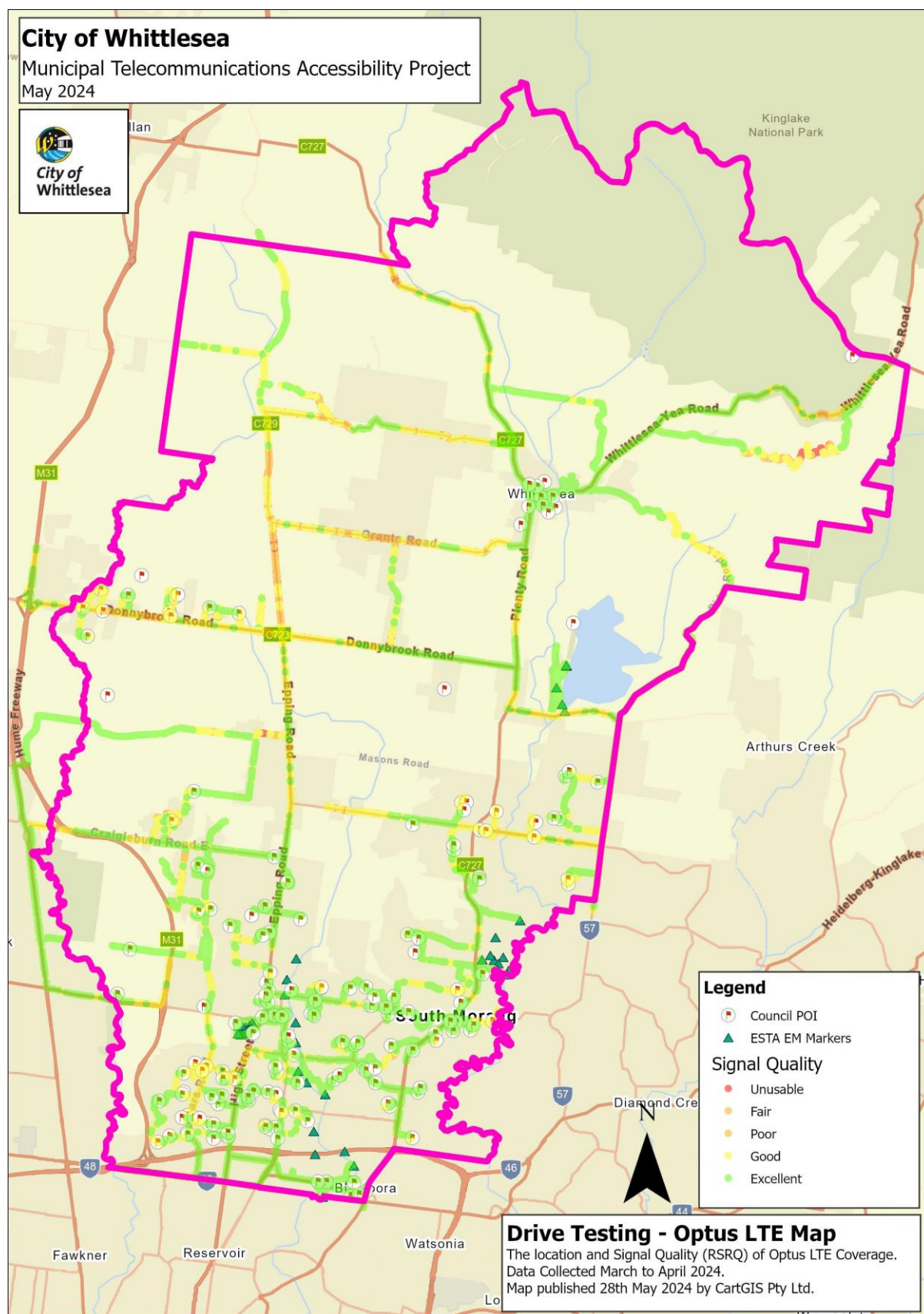
Appendix 10 – Telstra 4G network quality



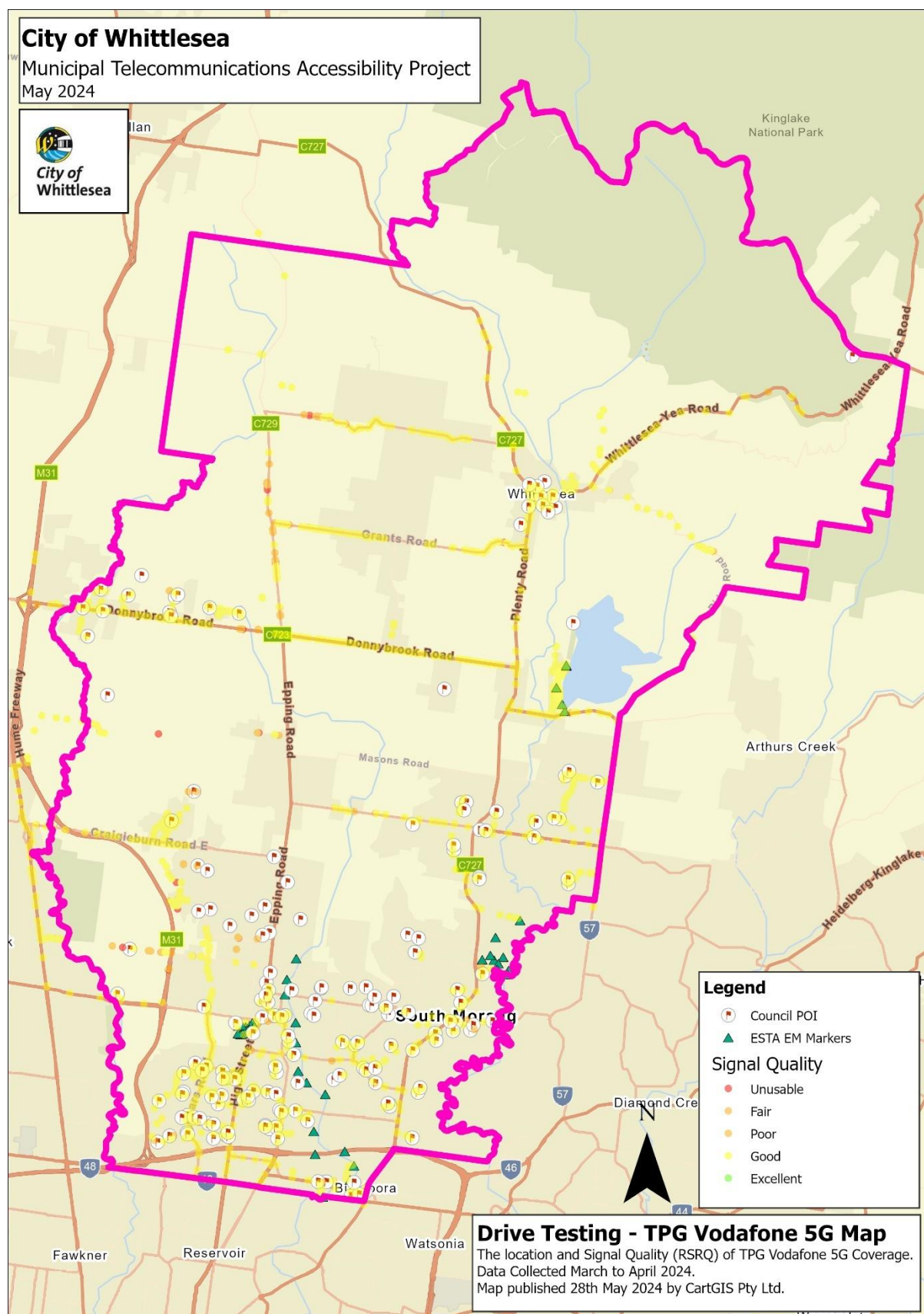
Appendix 11 –Optus 5G network quality



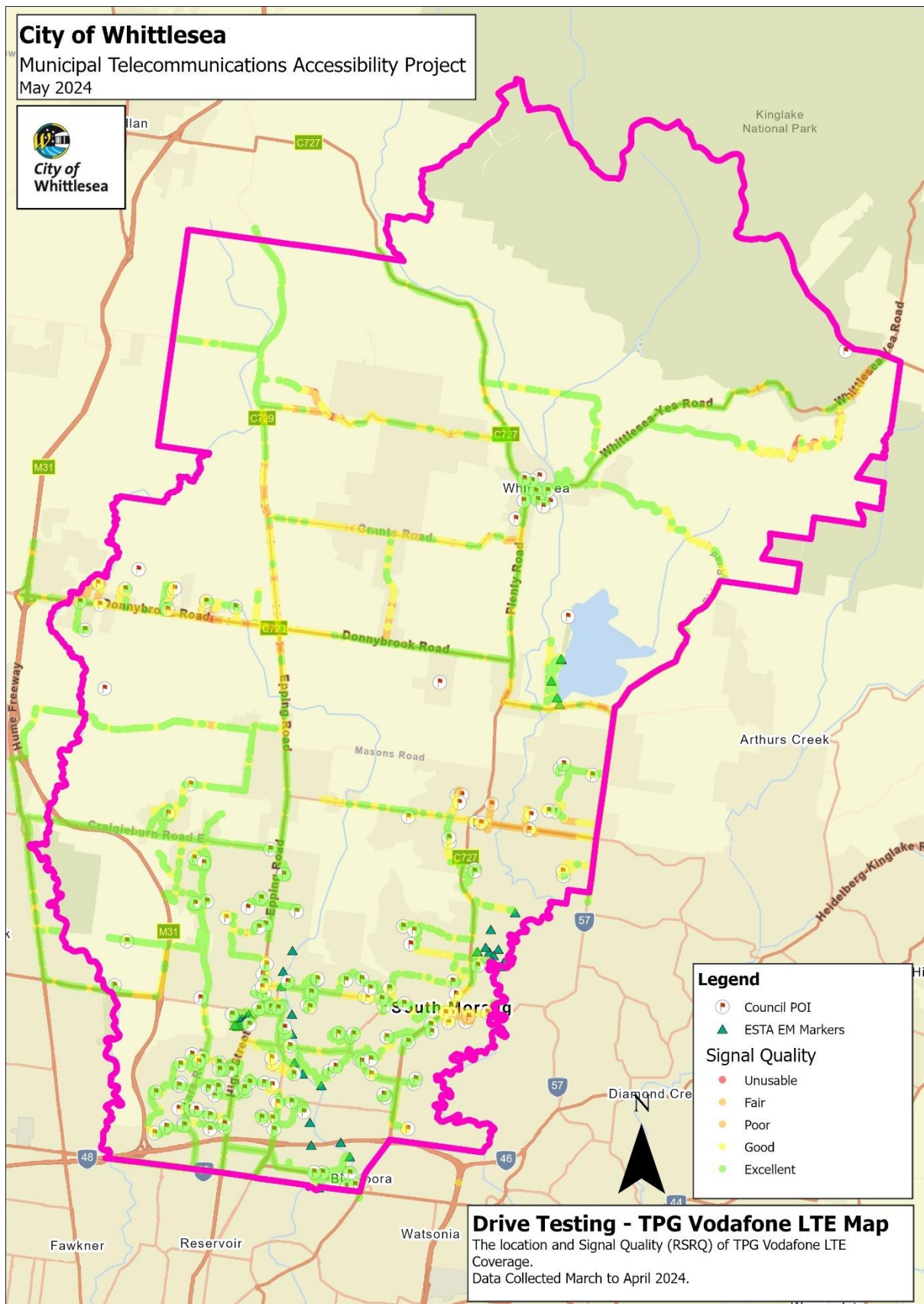
Appendix 12 –Optus 4G network quality



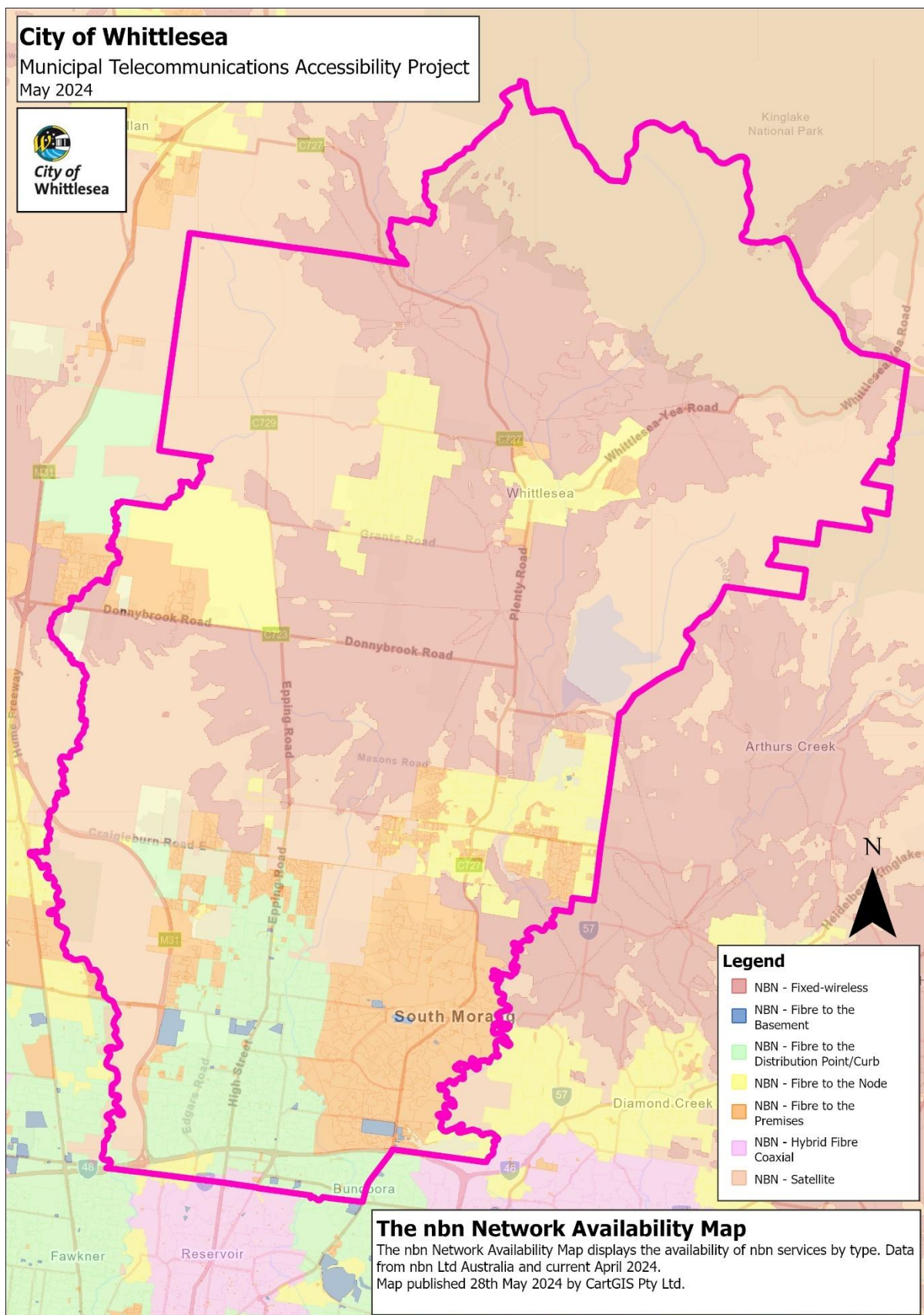
Appendix 13 – TPG Vodafone 5G network quality



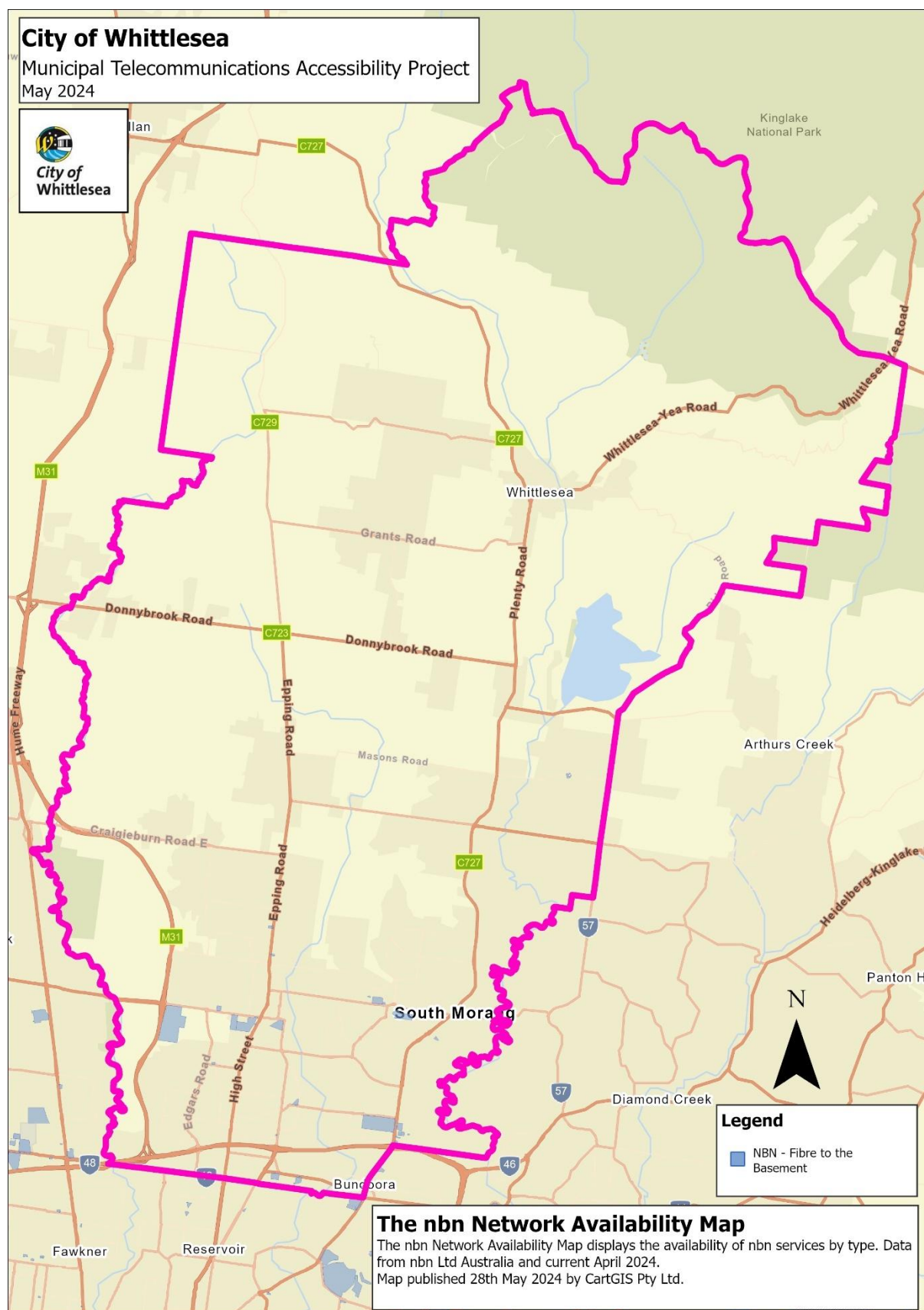
Appendix 14 – TPG Vodafone 4G network quality



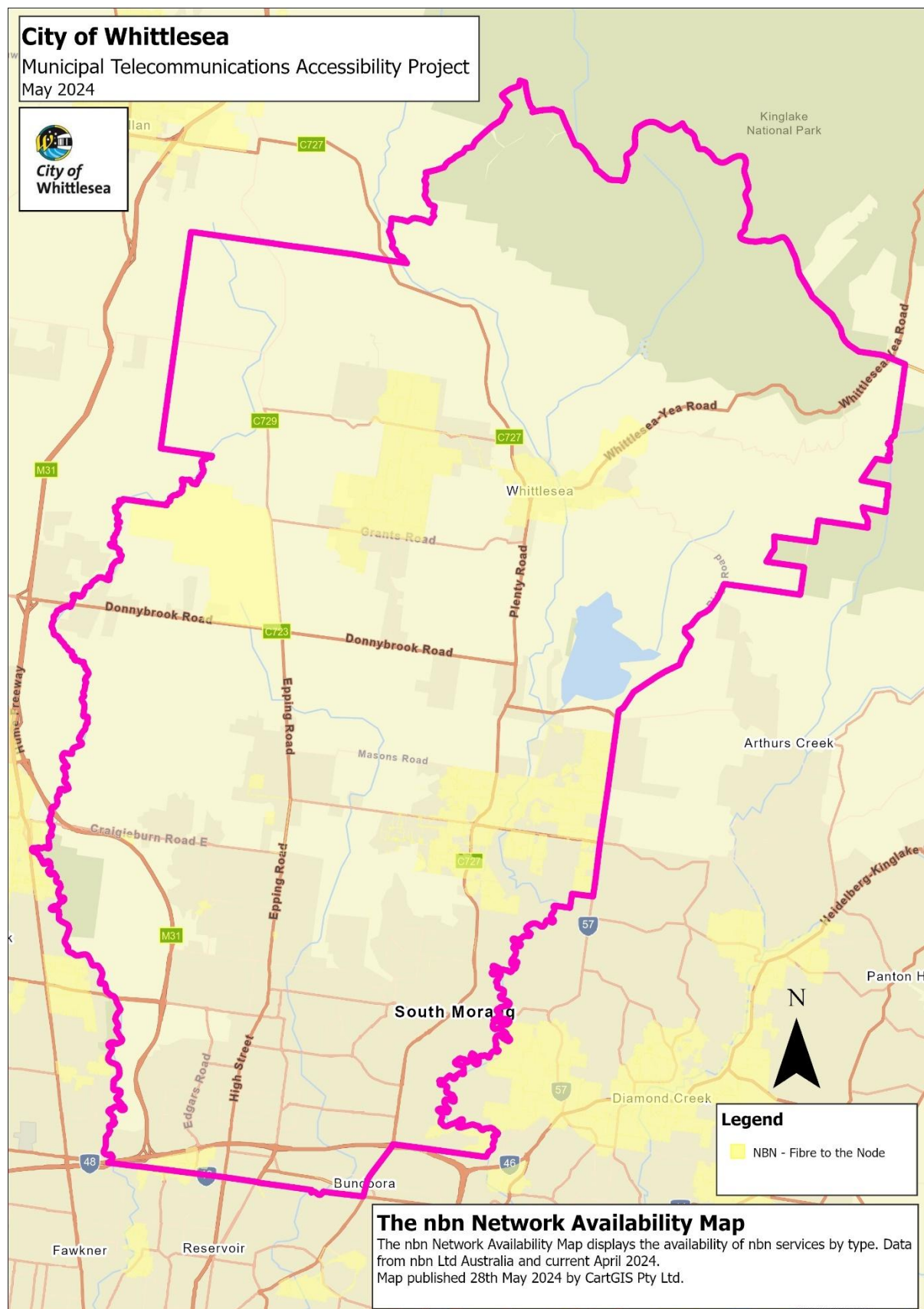
Appendix 15 – nbn Combined network coverage



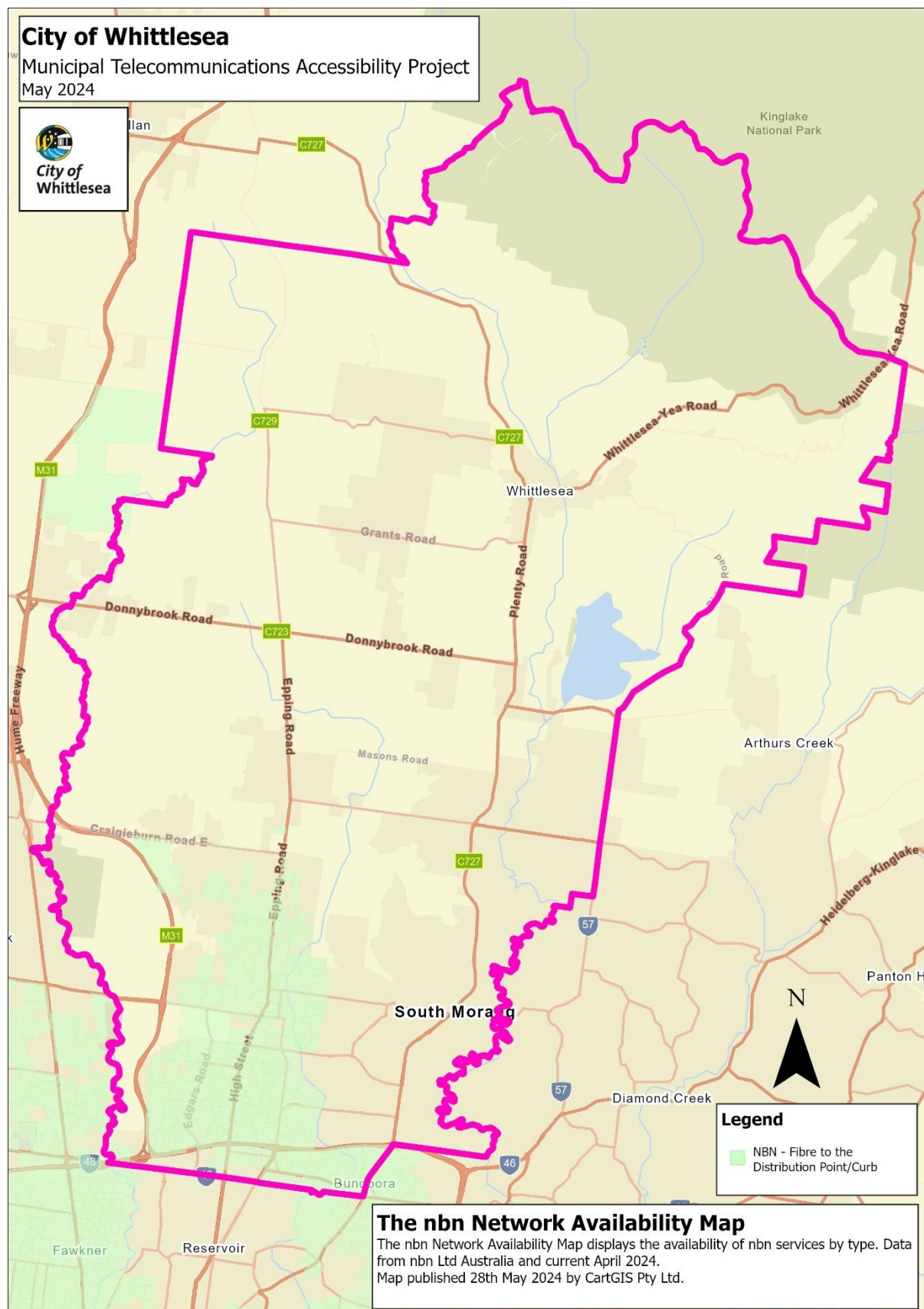
Appendix 16 – FTTB network coverage



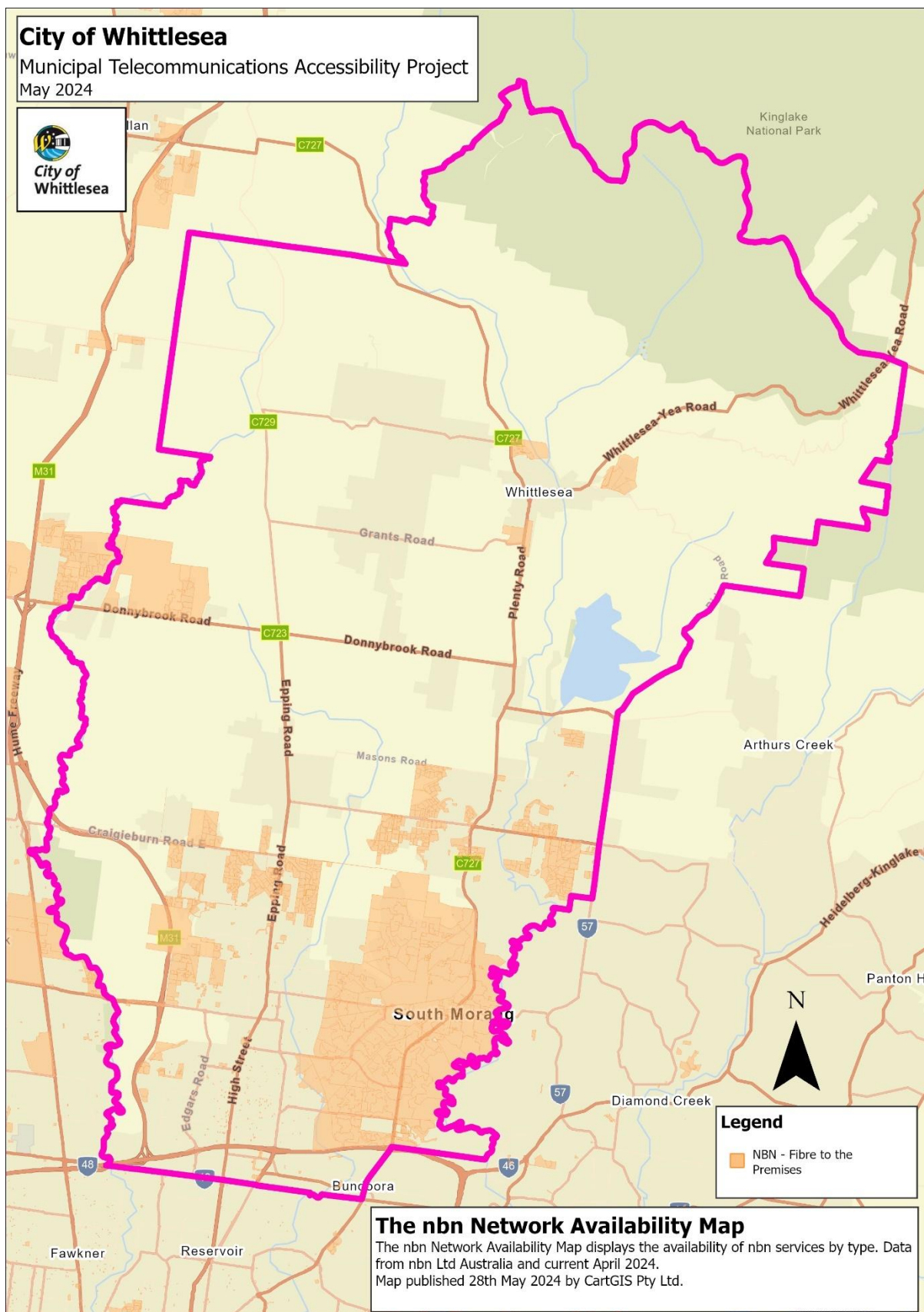
Appendix 17 - FTTN network coverage



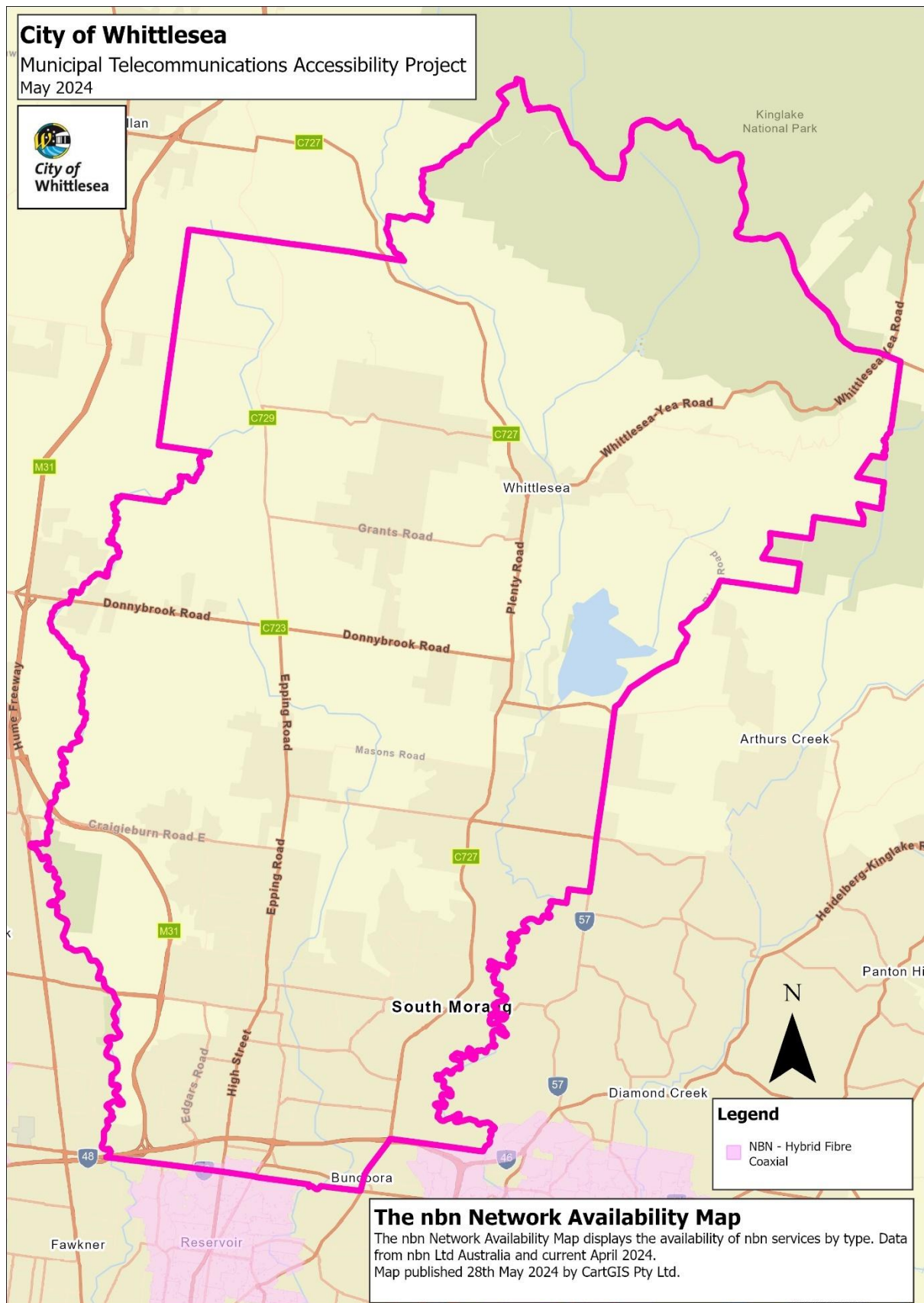
Appendix 18 - FTTC network coverage



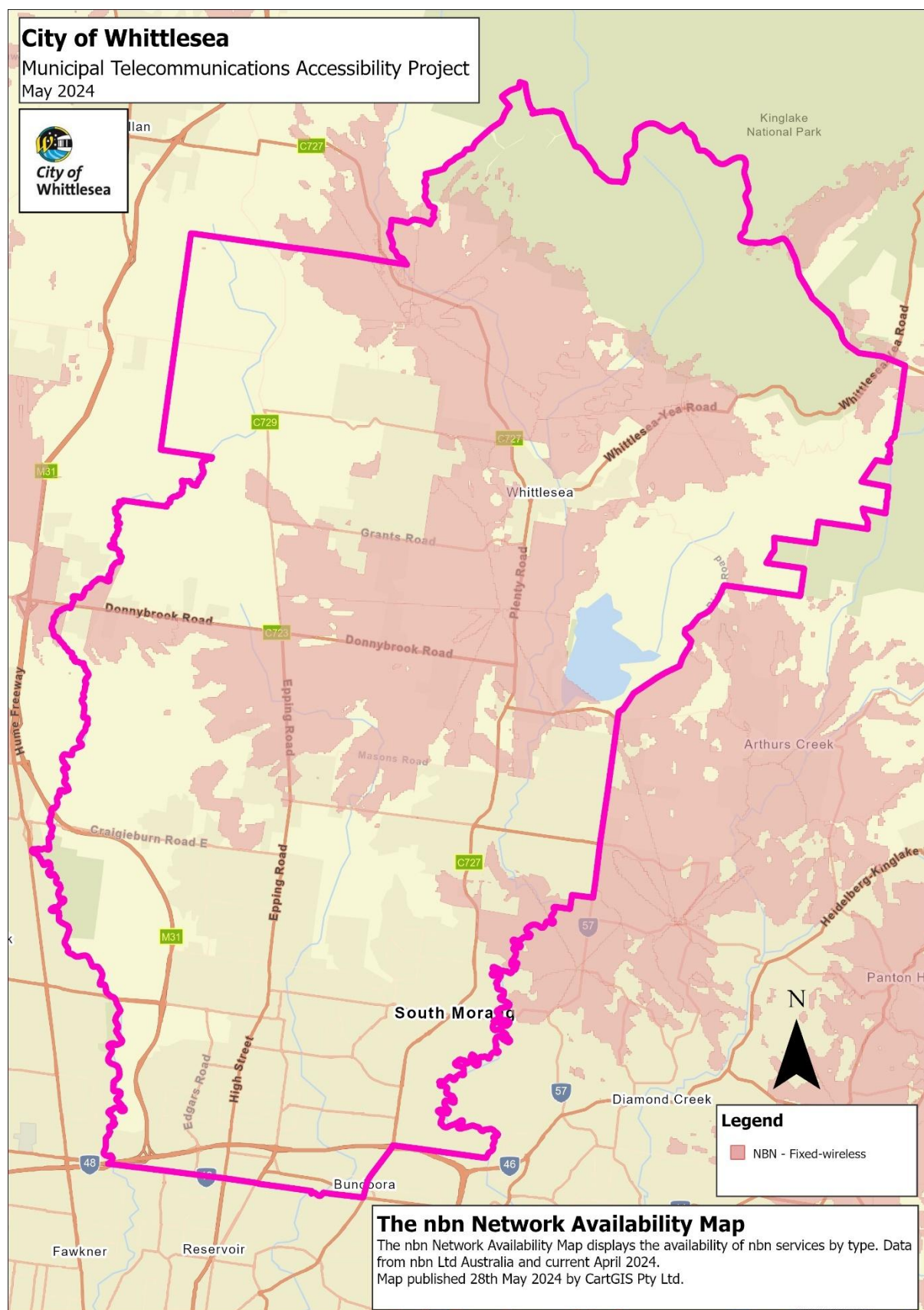
Appendix 19 - FTTP network coverage



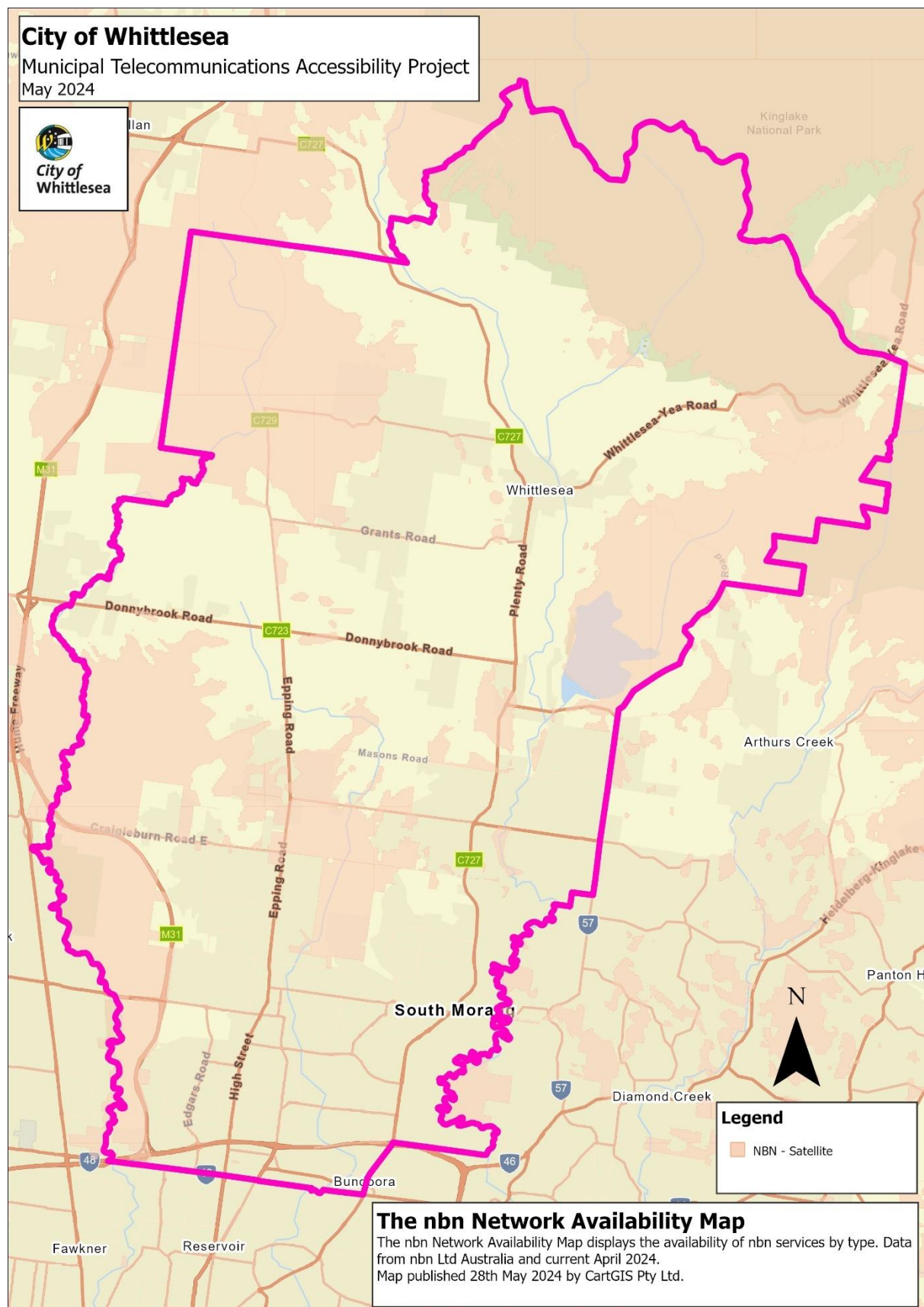
Appendix 20 - HFC network coverage



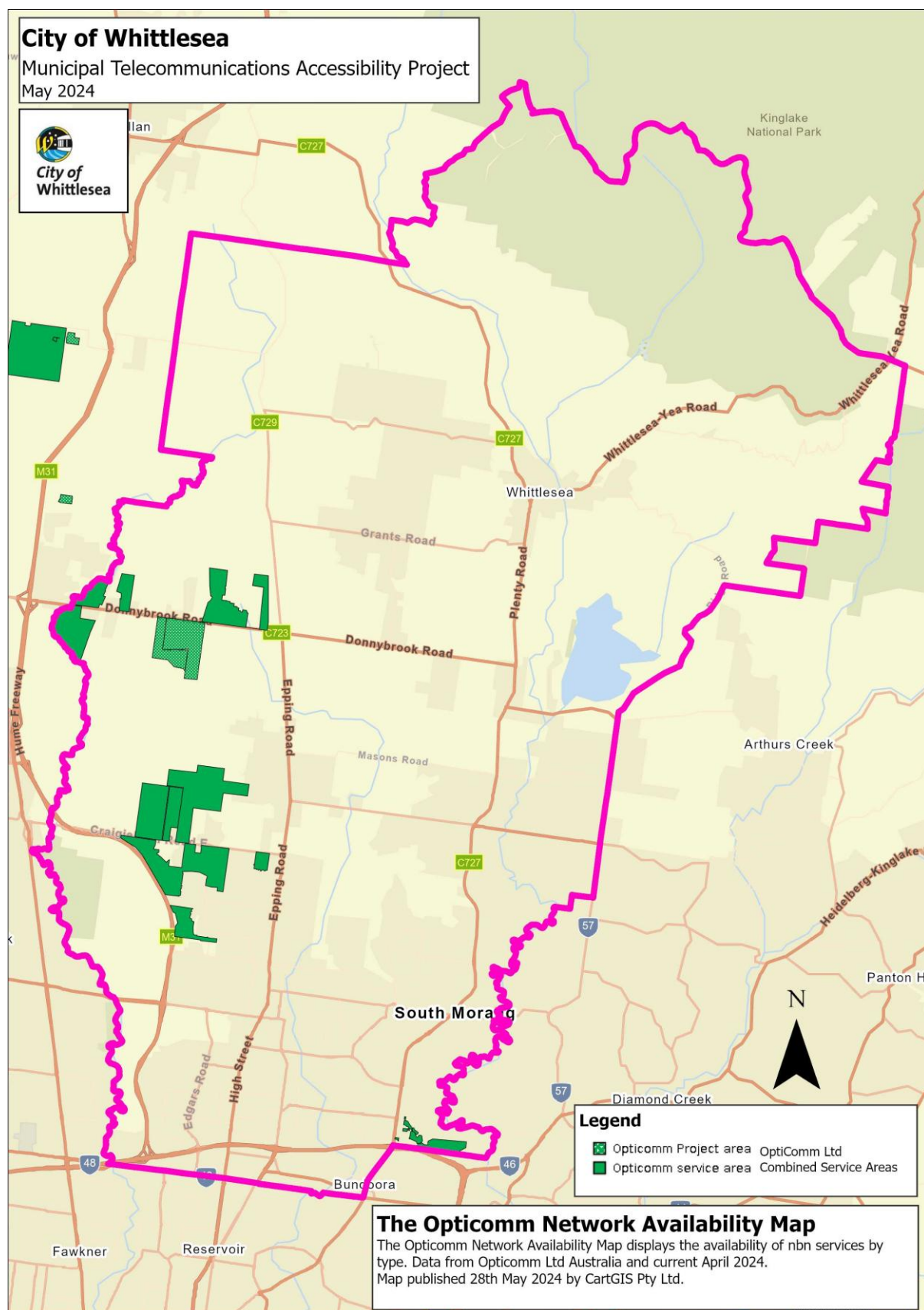
Appendix 21 – Fixed Wireless network coverage



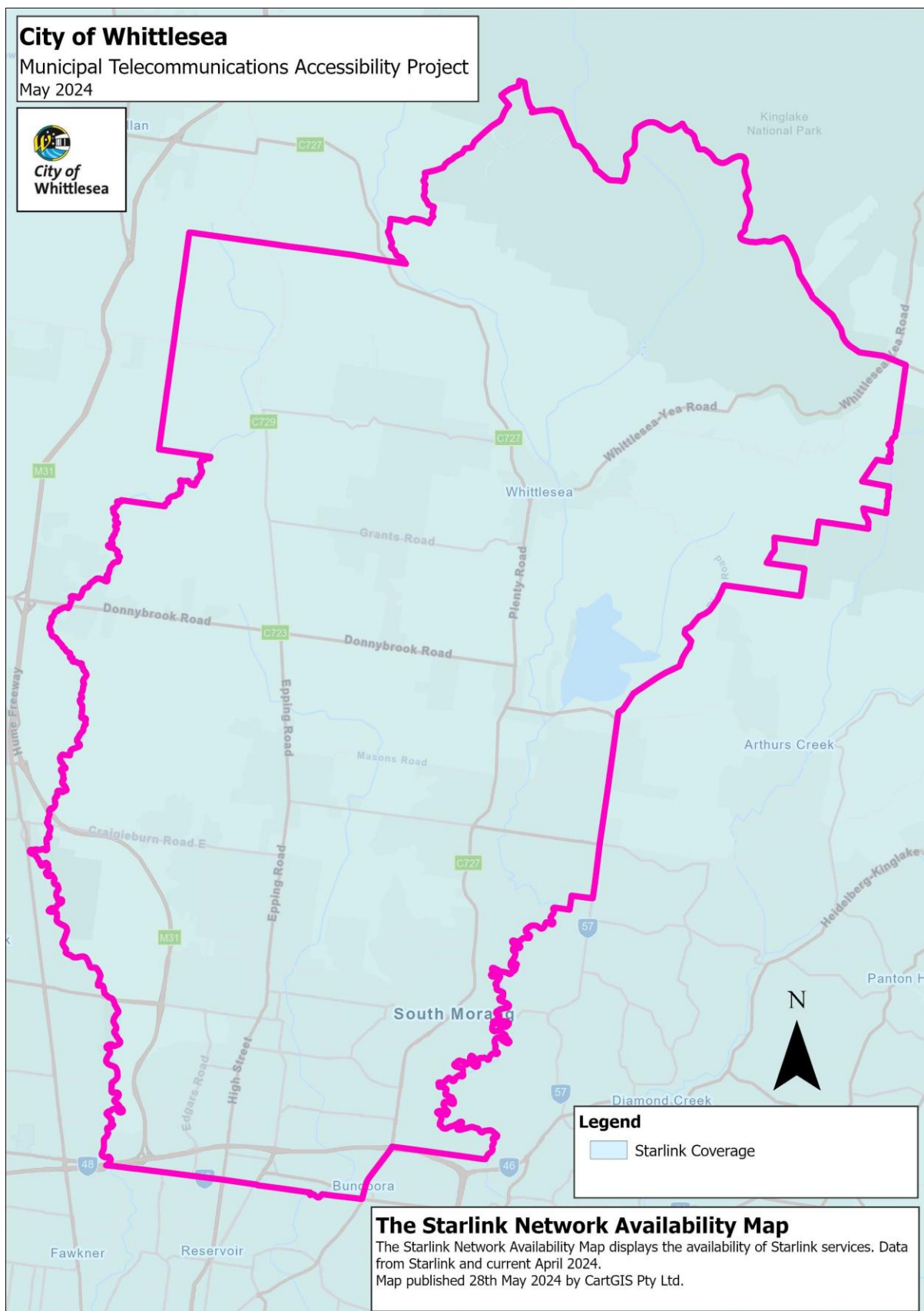
Appendix 22 – Satellite / SkyMuster network coverage



Appendix 23 – Opticomm Fibre network coverage



Appendix 23 – Starlink network coverage



Appendix 24 – Emergency Marker Coverage

EM ID	Location	Road Name	Locality	Telstra 5G	Telstra 4G	Optus 5G	Optus 4G	TPG 5G	TPG 4G
DAR018	Darebin Creek Trail 2	Glenn	Bundoora	Excellent	Excellent	Poor	Poor	Unusable	Unusable
PEP001	Pacific Epping Plaza	Cooper	Epping	Fair	Good	Good	Excellent	Excellent	Excellent
PEP002	Pacific Epping Plaza	Cooper	Epping	Fair	Good	Good	Excellent	Excellent	Good
PEP003	Pacific Epping Plaza	Cooper	Epping	Fair	Excellent	Good	Excellent	Excellent	Excellent
PEP004	Pacific Epping Plaza	Cooper	Epping	Fair	Fair	Good	Fair	Excellent	Excellent
PEP005	Pacific Epping Plaza	High	Epping	Fair	Fair	Excellent	Fair	Excellent	Excellent
PEP006	Pacific Epping Plaza	High	Epping	Fair	Poor	Excellent	Good	Excellent	Good
PEP007	Pacific Epping Plaza	High	Epping	Fair	Poor	Good	Good	Excellent	Good
PEP008	Pacific Epping Plaza	High	Epping	Fair	Poor	Good	Fair	Excellent	Good
PEP009	Pacific Epping Plaza	Cooper	Epping	Fair	Fair	Fair	Fair	Good	Fair
PEP010	Pacific Epping Plaza	Cooper	Epping	Fair	Good	Good	Good	Good	Good
PEP011	Pacific Epping Plaza	Cooper	Epping	Fair	Excellent	Good	Excellent	Excellent	Excellent
DAR019	Darebin Creek Trail 2	Lauder	Bundoora	Good	Excellent	Fair	Good	Fair	Good
DAR020	Darebin Creek Trail 2	Medora	Bundoora	Fair	Excellent	Good	Fair	Fair	Fair
DAR021	Darebin Creek Trail 2	Blau	Bundoora	Fair	Excellent	Fair	Fair	Fair	Poor
DAR022	Darebin Creek Trail 2	Middle	Thomastown	Good	Excellent	Fair	Fair	Excellent	Fair
DAR023	Darebin Creek Trail 2	Rowen	Thomastown	No Coverage	Excellent	Fair	Fair	Fair	Fair
DAR024	Darebin Creek Trail 2	Sycamore	Mill Park	Good	Good	Excellent	Excellent	Fair	Excellent
DAR025	Darebin Creek Trail 2	Donald	Lalor	Good	Excellent	Good	Excellent	Fair	Excellent
DAR026	Darebin Creek Trail 2	Hawkes	Mill Park	Fair	Good	Fair	Good	Fair	Fair
DAR027	Darebin Creek Trail 2	Best	Epping	Poor	Unusable	Poor	Fair	Good	Fair
DAR028	Darebin Creek Trail 2	Hendersons	Epping	Poor	Poor	Good	Good	Excellent	Good
DAR029	Darebin Creek Trail 2	Kaolin	Epping	Fair	Poor	Poor	Good	Fair	Fair
DAR030	Darebin Creek Trail 2	Rothwell	Epping	Fair	Poor	Poor	Fair	Fair	Fair
DAR031	Darebin Creek Trail 2	Lancia	Epping	Fair	Poor	Poor	Poor	No Coverage	Fair

PGP200	Plenty Gorge Park	Gordons	South Morang	Unusable	Poor	Unusable	Poor	Poor	Unusable
PGP400	Plenty Gorge Park	Gordons	South Morang	Fair	Excellent	Fair	Excellent	Poor	Fair
PGP401	Plenty Gorge Park	Gordons	South Morang	Unusable	Poor	Unusable	Unusable	Poor	Poor
PGP500	Plenty Gorge Park	Gordons	South Morang	Unusable	Excellent	Fair	Excellent	Poor	Fair
PGP501	Plenty Gorge Park	Wilton Vale	South Morang	Good	Fair	Fair	Fair	Fair	Fair
PGP502	Plenty Gorge Park	Wilton Vale	South Morang	Poor	Fair	Good	Fair	Good	Good
PGP503	Plenty Gorge Park	Gordons	South Morang	Unusable	Poor	Unusable	Unusable	Poor	Poor
PGP504	Plenty Gorge Park	Gordons	South Morang	Unusable	Poor	Unusable	Unusable	Poor	Poor
PGP505	Plenty Gorge Park	Gordons	South Morang	Unusable	Poor	Unusable	Unusable	Poor	Poor
PGP507	Plenty Gorge Park	Gordons	South Morang	Unusable	Unusable	Unusable	Poor	Poor	Unusable
YAN005	Yan Yean Reservoir	Arthurs Creek	Yan Yean	Fair	Good	Unusable	Poor	Poor	Poor
YAN004	Yan Yean Reservoir	Arthurs Creek	Yan Yean	Good	Fair	Unusable	Fair	Fair	Poor
YAN001	Yan Yean Reservoir	Arthurs Creek	Yan Yean	Poor	Fair	No Coverage	Poor	Fair	Fair
YAN002	Yan Yean Reservoir	Arthurs Creek	Yan Yean	Poor	Poor	No Coverage	Poor	Poor	Unusable
YAN003	Yan Yean Reservoir	Arthurs Creek	Yan Yean	Fair	Poor	Unusable	Poor	Poor	Poor

Appendix 25 – POI's Coverage

Site Name	Type	Address	Telstra 5G	Telstra 4G	Optus 5G	Optus 4G	TPG 5G	TPG 4G
Amity at South Morang Regent Aged Care Facility - Bupa Care Services	Aged care	18 - 22 McGlynn Avenue, South Morang	Fair	Poor	Fair	Fair	Fair	Fair
Amity at Thomastown Dalton Lodge Aged Care Bupa Care Services	Aged care	89 Dalton Road, Thomastown	Good	Good	Good	Good	Fair	Fair
Baptcare Wattle Grove Community	Aged care	51 Pinetree Crescent, Lalor	Poor	Good	Poor	Fair	Fair	Poor
Bethel Aged Care	Aged care	600 Plenty Road, Mill Park	Good	Excellent	Fair	Good	Excellent	Good
BlueCross - The Boulevard	Aged care	70 Heath's Court, Mill Park	Poor	Good	Poor	Fair	Good	Poor
Epping Meadows Care Community	Aged care	202 McDonald Road Epping 3076	Fair	Unusable	Fair	Fair	Good	Good
Estia Health South Morang	Aged care	879 Plenty Road, South Morang	Fair	Poor	Fair	Fair	Good	Fair
Grace of Mary Greek and Cypriot Elderly Hostel	Aged care	190-200 McDonalds Road, Epping	Fair	Poor	Fair	Fair	Good	Good
Green Gables Hostel	Aged care	15 Coulstock Street, Epping	No Coverage	Poor	Good	Fair	Good	Fair
Greenhill on Civic Aged Care Facility	Aged care	7 Civic Drive, Epping	Excellent	Fair	Poor	Good	Good	Good
Meadowglen Nursing Home - Opal Aged Care	Aged care	202 McDonalds Road, Epping	Fair	Unusable	Fair	Fair	Good	Good
People First Healthcare	Aged care	10-12 Ruthven Crescent, Lalor	Poor	Unusable	Fair	Fair	Fair	Poor
San Carlo Homes for the Aged Ltd	Aged care	970 Plenty Road, South Morang	Fair	Poor	Poor	Good	Good	Fair
South Morang Mews	Aged care	806 Plenty Road, South Morang	Fair	Good	Fair	Good	Good	Fair
Sunlight Residential Aged Care - TLC Aged Care	Aged care	43 Laurel Street, Whittlesea	Excellent	Excellent	No Coverage	Poor	Fair	Poor
Whittlesea Lodge Aged Care Facility	Aged care	30-32 Fir Street, Whittlesea	Fair	Excellent	No Coverage	Poor	Fair	Poor
Cooper Street business precinct	Commercial	310-348 Cooper St, Epping VIC 3076	Fair	Fair	Fair	Fair	Excellent	Good
Epping Plaza	Commercial	571-582 High Street, Epping, Victoria 3076	Fair	Fair	Excellent	Good	Excellent	Excellent
Longford Business Park	Employment Precinct	14 Longford Avenue, Epping 3076	Good	Excellent	Fair	Fair	Good	Good
11 Quiland Road	Employment Precinct	11 Quiland Road, Epping 3076	Excellent	Poor	Fair	Good	Fair	Excellent

Alliance Business Park	Employment Precinct	75 Gateway Boulevard, Epping 3076	Good	Excellent	Fair	Excellent	Poor	Fair
Connect North Business Park	Employment Precinct	135-149 O'Herns Road, Epping 3076	Good	Unusable	Fair	Fair	Fair	Good
Dilop at Epping	Employment Precinct	18 Dilop Avenue, Epping 3076	Fair	Poor	Excellent	Excellent	Good	Excellent
Gateway Business Hub	Employment Precinct	130 Gateway Boulevard, Epping 3076	Excellent	Excellent	Fair	Fair	Poor	Fair
NorthPoint Enterprise Park	Employment Precinct	Cooper Street Epping 3076	Fair	Excellent	Excellent	Excellent	Good	Excellent
Scanlon Business Park	Employment Precinct	5 Scanlon Drive, Epping 3076	Excellent	Excellent	Fair	Excellent	Poor	Fair
Willandra Business Park	Employment Precinct	74 Willandra Drive, Epping 3076	Poor	Fair	Poor	Fair	Good	Fair
4Ten Epping	Employment Precinct	410 Cooper Street, Epping 3076	Fair	Excellent	Excellent	Excellent	Good	Excellent
Biodiversity Business Park	Employment Precinct	481 Cooper Street, Epping 3076	Fair	Excellent	Excellent	Excellent	Good	Excellent
Epping Logistics Estate	Employment Precinct	415 Cooper Street, Epping 3076	Fair	Excellent	Excellent	Excellent	Good	Excellent
Graystone Hub	Employment Precinct	27 Graystone Court, Epping 3076	Fair	Good	Poor	Fair	Fair	Poor
Barrawang Primary School Kindergarten	Council	1 Islington St, Wollert VIC 3750	Poor	Fair	Unusable	Fair	Poor	Poor
Barry Road Community Activity Centre	Council	36 Barry Road Lalor 3075	Fair	Fair	Fair	Fair	Good	Fair
Boori MCH Centre	Council	21 Winchester Ave, Epping	Fair	Fair	Poor	Poor	Good	Poor
Brookwood Community Centre	Council	25 Hazel Glen Drive, Doreen VIC 3754	Unusable	Fair	Poor	Poor	Fair	Fair
Bundoora MCH Centre	Council	Unit 7/5 Nickson St, Bundoora VIC 3083	Fair	Excellent	Excellent	Good	Excellent	Excellent
Centenary Drive MCH Centre	Council	68 Centenary Drive, Mill Park Victoria 3082	Good	Excellent	Fair	Poor	Good	Fair
Civic Centre	Council	35 Ferres Blvd, South Morang VIC 3752	Good	Unusable	Poor	Poor	Good	Poor
Dalton Road MCH Centre	Council	145b Maple St, Thomastown VIC 3074	Poor	Excellent	Fair	Fair	Fair	Poor
Derby Meadows Preschool	Council	17 Winchester Ave, Epping Victoria 3076	Fair	Fair	Poor	Poor	Good	Poor
Edward Street Preschool	Council	1, Edward Street, Bundoora Victoria 3083	Good	Excellent	Good	Good	Excellent	Good
Epping Community Activity Centre	Council	378 Findon Road, Epping Victoria 3076	Good	Poor	Fair	Good	No Coverage	Good

Epping Community Services Hub	Council	713 High St, Epping VIC 3076	No Coverage	Good	Fair	Good	Good	Good
Epping Memorial Community Hall	Council	827 High St, Epping VIC 3076	Fair	Poor	Poor	Poor	Good	Poor
Epping Views Family and Community Centre	Council	15 Lyndarum Drive, Epping Vic 3076	Excellent	Excellent	Unusable	Fair	Poor	Poor
Epping Works Depot (Administration Building)	Council	68 Houston Street, Epping VIC 3076	Fair	Fair	Good	Fair	Good	Good
Eucalyptus Parade Kindergarten	Council	38 Eucalyptus Parade, Donnybrook VIC 3064	Unusable	Poor	Unusable	Poor	Poor	Poor
Galada Community Centre	Council	10A Forum Way, Epping	Fair	Good	Poor	Poor	Poor	Poor
Ganbu Gulinj Community Centre	Council	55 Macedon Parade, Wollert	Fair	Fair	Unusable	Poor	Poor	Unusable
Greenbrook Community House	Council	40 McFarlane Crescent, Epping, VIC 3076	Poor	Poor	Fair	Excellent	Good	Fair
Janefield Community Centre	Council	2 Manchester Cres, Bundoora VIC 3083	No Coverage	Excellent	Unusable	Fair	Poor	Poor
Jindi Family and Community Centre	Council	48 Breadalbane Ave, Mernda VIC 3754	Fair	Fair	Fair	Fair	Good	Good
Kirrip Community Centre	Council	135 De Rossi Blvd, Wollert VIC 3750	Excellent	Good	Fair	Excellent	No Coverage	Good
Lalor East Preschool	Council	186 Darebin Dr, Lalor VIC 3075	Fair	Good	Fair	Good	Fair	Good
Lalor Library	Council	2A May Rd, Lalor VIC 3075	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
Lalor Primary School Kindergarten	Council	28 Maxwell St, Lalor VIC 3075	Poor	Good	Fair	Poor	Fair	Poor
Laurimar Community Activity Centre	Council	110 Hazel Glen Dr, Doreen VIC 3754	Unusable	Poor	No Coverage	Good	Fair	Good
May Road Senior Citizens Centre	Council	2B May Rd, Lalor VIC 3075	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
Meadowglen Primary School Kindergarten	Council	22-48 Meadow Glen Dr, Epping VIC 3076	Good	Fair	Poor	Good	Good	Good
Mernda Community House	Council	2 Heals Road, Mernda VIC 3754	Good	Fair	Unusable	Poor	Poor	Poor
Mernda South MCH Centre	Council	2 Goulburn St, Mernda	Fair	Good	Poor	Poor	Fair	Fair
Mernda Town Centre Library Hub	Council	180 Riverdale Bvd, Mernda VIC 3754	Excellent	Fair	Good	Fair	Fair	Fair
Mernda Village Community Centre	Council	70 Mernda Village Dr, Mernda VIC 3754	Poor	Poor	Poor	Poor	Poor	Poor
Mill Park Drive MCH Centre	Council	7 Mill Park Dr, Mill Park VIC 3082	No Coverage	Good	Poor	Fair	Fair	Fair
Mill Park Lakes Community Centre	Council	170 The Lakes Blvd, South Morang VIC 3752	Good	Good	Poor	Poor	Fair	Fair
Mill Park Preschool	Council	Rear 7 Mill Park Drive, Mill Park VIC 3082	No Coverage	Good	Poor	Fair	Fair	Fair

Mill Park Public Library	Council	394 Plenty Rd, Mill Park VIC 3082	Good	Excellent	Fair	Good	Excellent	Excellent
Mill Park Stadium	Council	Redleap Ave, Mill Park VIC 3082	Good	Good	Good	Good	Excellent	Excellent
Miller Community Centre	Council	11 Mill Park Dr, Mill Park VIC 3082	No Coverage	Good	Fair	Fair	Fair	Fair
Murnong Kindergarten	Council	183 Olivine Boulevard, Donnybrook	Poor	Poor	Unusable	Unusable	Unusable	Unusable
Nick Ascenzo Community Centre	Council	2 Boronia St, Thomastown VIC 3074	No Coverage	Good	Fair	Fair	Good	Poor
Northern Depot (known as Whittlesea Depot)	Council	68 Houston St, Epping VIC 3076	Fair	Fair	Good	Fair	Good	Good
Oakbrook Kindergarten	Council	36 Holroyd Dr, Epping VIC 3076	Poor	Unusable	Unusable	Fair	Good	Good
Orchard Road Community & Early Learning Centre (MCH)	Council	121 Orchard Rd, Doreen VIC 3754	Fair	Excellent	Fair	Good	Good	Good
R.G.C. Cook Recreation Reserve Soccer Pavilion	Council	18 Robinvale Ave, Thomastown VIC 3074	Good	Fair	Fair	Good	Fair	Fair
Spring Street Hall	Council	Melway, 8 J8/1 Spring St, Thomastown VIC 3074	Good	Excellent	Fair	Fair	Good	Fair
Spring Street Kindergarten	Council	16 Spring Street, Thomastown VIC 3074	Good	Good	Fair	Good	Good	Fair
The Edge- Youth Service (Ground Floor)	Council	Westfield Plenty Valley Shopping Centre	Good	Fair	Unusable	Excellent	Excellent	Excellent
Thomas Street Recreation Reserve	Council	47 Thomas St, Thomastown VIC 3074	Fair	Poor	Fair	Poor	Good	Fair
Thomastown Library	Council	52 Main Street, Thomastown VIC 3074	Fair	Fair	Poor	Fair	Fair	Fair
Thomastown Recreation & Aquatic Centre	Council	52 - 54 Main Street, Thomastown VIC 3074	Fair	Fair	Poor	Fair	Fair	Fair
wat djerring Animal Facility (previously known as Epping Animal Welfare Facility)	Council	20 Companion Pl, Epping VIC 3076	Good	Excellent	Good	Good	Good	Good
Whittlesea Community Activity Centre	Council	57-61 Laurel St, Whittlesea VIC 3757	Excellent	Excellent	No Coverage	Fair	Good	Fair
Whittlesea Community House/Preschool	Council	92 Church Street, Whittlesea VIC 3757	Fair	Excellent	No Coverage	Poor	Fair	Poor
French Street Hall	Council land	47A French St, Lalor VIC 3075	Excellent	Excellent	Excellent	Excellent	Excellent	Good
Scout Hall-31A Waratah Street Thomastown	Council land	31A Waratah Street Thomastown	No Coverage	Excellent	Poor	Fair	Fair	Poor
Barry Road Preschool	Council-owned, leased	32 Barry Road, Thomastown Victoria 3074	Fair	Fair	Poor	Poor	Good	Fair

Blossom Park Kindergarten	Council-owned, leased	59 Azalea Avenue, Mill Park Victoria 3082	No Coverage	Poor	Unusable	Fair	Fair	Poor
Bubup Wilam Aboriginal Child and Family Centre	Council-owned, leased	76 Main St, Thomastown VIC 3074	Poor	Poor	Fair	Poor	Fair	Poor
Carrington Childrens Centre	Council-owned, leased	62 Carrington Bvd, Thomastown Victoria 3074	Good	Good	Fair	Fair	Fair	Poor
Dalton Road Preschool	Council-owned, leased	145A Dalton Rd, Thomastown VIC 3074	Poor	Excellent	Fair	Fair	Good	Poor
Epping Police Station	Council-owned, leased	785 High St, Epping VIC 3076	Fair	Poor	Poor	Poor	Fair	Fair
Epping Preschool	Council-owned, leased	849 High Street, Epping, Victoria 3076	Fair	Fair	Poor	Poor	Fair	Poor
Epping RSL	Council-owned, leased	195 Harvest Home Rd, Epping VIC 3076	Good	Fair	Fair	Fair	Poor	Good
Greenbrook Kindergarten	Council-owned, leased	31 Lowalde Drive, Epping, Vic 3076	Poor	Poor	Fair	Good	Good	Poor
Harbard Street Kindergarten	Council-owned, leased	1 Gladstone St, Thomastown VIC 3074	Poor	Fair	Poor	Fair	Good	Unusable
Jacaranda Preschool-Kingsway Drive	Council-owned, leased	118 Kingsway Dr, Lalor VIC 3075	Fair	Fair	Poor	Poor	Poor	Poor
Jacaranda Preschool-Nebel Street	Council-owned, leased	34 Nebel St, Lalor VIC 3075	Poor	Fair	Fair	Fair	Poor	Poor
Korin Korin Child and Family Centre	Council-owned, leased	20 Champions Parade, Wollert VIC 3750	Excellent	Good	Fair	Excellent	No Coverage	Good
McLeans Road Kindergarten	Council-owned, leased	151 McLeans Rd, Bundoora VIC 3083	Good	Good	Fair	Fair	Poor	Fair

Mill Park Heights Child Care Centre	Council-owned, leased	31 Morang Dr, Mill Park VIC 3082	Excellent	Excellent	Fair	Fair	Excellent	Fair
Mill Park Leisure Centre	Council-owned, leased	33 Morang Drive, Mill Park VIC 3082	Excellent	Excellent	Fair	Fair	Excellent	Good
Plenty Valley Community Health	Council-owned, leased	20 Civic Drive, Mill Park VIC 3082	Excellent	Unusable	Fair	Good	Good	Fair
Riverside Community Activity Centre	Council-owned, leased	8 Doreen Rogen Way, South Morang VIC 3752	Poor	Good	Poor	Good	Poor	Poor
Roycroft Kindergarten	Council-owned, leased	114 Roycroft Ave, Mill Park VIC 3082	Fair	Excellent	Good	Excellent	Fair	Good
Scout Hall-85 Mountview Road Lalor	Council-owned, leased	85 Mount View Rd Lalor VIC 3074	Fair	Fair	Fair	Fair	Good	Fair
South Morang Preschool Inc - Reid St	Council-owned, leased	73B Reid St, South Morang VIC 3752	Good	Poor	Poor	Poor	Fair	Good
The Stables Kindergarten	Council-owned, leased	284 Childs Rd, Mill Park VIC 3082	Good	Good	Excellent	Good	Excellent	Excellent
Thomastown Childcare Centre	Council-owned, leased	129 Edgars Road, Thomastown VIC 3074	Poor	Good	Poor	Fair	Good	Fair
Thomastown West Kindergarten	Council-owned, leased	127 Edgars Road, Thomastown VIC 3074	Poor	Fair	Poor	Poor	Fair	Fair
Vasey Park Preschool	Council-owned, leased	15 Vasey Ave, Lalor VIC 3075	Fair	Good	Excellent	Good	Good	Poor
Whittlesea Service Hub	Council-owned, leased	63 Church Street, Whittlesea.	Good	Excellent	No Coverage	Fair	Fair	Fair
Whittlesea Swimming Centre	Council-owned, leased	50 Walnut St, Whittlesea VIC 3757	Fair	Excellent	No Coverage	Fair	Fair	Fair

Epping Hub	Epping Central	650 High Street, Epping 3076	Fair	Excellent	Excellent	Excellent	Excellent	Excellent
Pacific Epping	Epping Central	571-583 High Street, Epping VIC 3076	Fair	Fair	Good	Fair	Excellent	Excellent
New Epping	Epping Renewal	215 Cooper Street, Epping 3076	Fair	Fair	Poor	Fair	Good	Fair
Aurora Business Park	Future Parks	O'Herns Road/Koukoura Drive Epping 3075	Excellent	Excellent	Fair	Fair	Poor	Fair
Lockberbie	Future Parks	Springs Road/Apsley Way Donnybrook 3064	Poor	Poor	Poor	Poor	Poor	Poor
Shenstone Park	Future Parks	Donnybrook Road/Langley Park Drive Donnybrook 3064	Unusable	Poor	Fair	Unusable	Fair	Unusable
Northern Private Hospital	Hospital	12 Osburn Place, on the corner of Osburn Place and Norwell Street, Epping, Victoria	Fair	Fair	Poor	Fair	Fair	Poor
The Northern Hospital	Hospital	185 Cooper Street, Epping	No Coverage	Fair	Good	Good	Excellent	Excellent
Mernda Town Centre	Mernda	180 Riverdale Boulevard, Mernda 3754	Fair	Poor	Good	Good	Good	Fair
100c Gorge Road, South Morang	Miscellaneous	100c Gorge Road, South Morang	Fair	Poor	Unusable	Poor	Fair	Unusable
Donnybrook Precinct	Miscellaneous	Suburb wide - Donnybrook	No Coverage	Fair	No Coverage	Fair	Fair	Fair
Mernda Town Centre	Miscellaneous	1410 Plenty Road, Mernda VIC 3754	Fair	Poor	Good	Fair	Good	Fair
Northern Quarries	Miscellaneous	375 Oherns Road, Epping Victoria 3076	Good	Fair	Unusable	Poor	Fair	Poor
Unnamed	Miscellaneous	Dysart Road, Melbourne, Victoria, 3064	Poor	Poor	No Coverage	Unusable	Fair	Poor
Unnamed	Miscellaneous	50-78 Feathertop Crescent, Donnybrook, Melbourne, Victoria, 3064	Unusable	Poor	Unusable	Poor	Unusable	Unusable
Unnamed	Miscellaneous	29-37 Norman Road, Donnybrook, Melbourne, Victoria, 3064	Unusable	Poor	No Coverage	Poor	Poor	Unusable
Unnamed	Miscellaneous	11-33 Boilersmith Street, Melbourne, Victoria, 3064	Poor	Poor	Fair	Poor	Fair	Unusable
Unnamed	Miscellaneous	21-39 Greenwood Road, Donnybrook, Melbourne, Victoria, 3064	Poor	Poor	Poor	Poor	Poor	Poor
Wollert Precinct	Miscellaneous	Suburb wide - Wollert	Fair	Fair	Fair	Fair	Fair	Fair
33 Danaher Drive	Plenty Valley Town Centre	33 Danaher Drive, South Morang 3752	Excellent	Fair	Good	Good	Excellent	Excellent
855 Plenty Road	Plenty Valley Town Centre	855 Plenty Road, South Morang 3752	Fair	Poor	Poor	Fair	Fair	Poor

Axis Lifestyle Centre	Plenty Valley Town Centre	795 Plenty Road, South Morang 3752	Good	Good	Fair	Excellent	Good	Good
Central South Morang	Plenty Valley Town Centre	338-342 McDonalds Road, South Morang 3752	Good	Fair	Fair	Fair	Excellent	Good
Donaher Corporate Centre	Plenty Valley Town Centre	1 Donaher Drive, South Morang 3752	Fair	Fair	Poor	Fair	Good	Fair
HomeCo South Morang	Plenty Valley Town Centre	825 Plenty Road, South Morang 3752	Good	Fair	Good	Good	Good	Good
Mason Point	Plenty Valley Town Centre	Bush Boulevard, South Morang 3752	Fair	Fair	Good	Good	Fair	Good
Newpoint Business Park	Plenty Valley Town Centre	43 Danaher Drive, South Morang 3752	Excellent	Fair	Good	Good	Excellent	Excellent
South Morang Corporate Centre	Plenty Valley Town Centre	2 Murdoch Road, South Morang 3752	Excellent	Fair	Good	Excellent	Fair	Good
Westfield Plenty Valley	Plenty Valley Town Centre	415 McDonalds Road, Mill Park 3082	Good	Fair	Poor	Good	Excellent	Good
Zuccala Business Park	Plenty Valley Town Centre	545 McDonalds Road, South Morang 3752	Good	Fair	Fair	Fair	Excellent	Good
Ashley Park Primary School	Primary School	105 Orchard Road Doreen	Fair	Fair	Fair	Fair	Good	Good
Baltara School	Primary School	27 Waratah Street Thomastown	Poor	Good	Fair	Fair	Fair	Poor
Epping Primary School	Primary School	805 High Street Epping	Fair	Poor	Poor	Fair	Fair	Fair
Epping Primary School (Greenbrook Campus)	Primary School	60 Peppercorn Parade Epping	Fair	Poor	Fair	Good	Good	Poor
Epping Views Primary School	Primary School	20 Mansfield Street Epping	Good	Good	Unusable	Fair	Poor	Poor
Findon Primary School	Primary School	5 Cuthbert Drive Mill Park	Fair	Good	Poor	Good	Fair	Good
Glowrey Catholic Primary School	Primary School	10 Baltrum Drive Wollert	Excellent	Fair	Poor	Fair	No Coverage	Fair

Harvest Home Primary School	Primary School	365 Harvest Home Road Epping	Fair	Excellent	Unusable	Poor	Fair	Unusable
Ivanhoe Grammar School - Primary & Secondary	Primary School	730 Bridge Inn Rd Doreen	Fair	Poor	Poor	Poor	Poor	Poor
Lalor East Primary School	Primary School	39 Cleveland Street Thomastown	Poor	Excellent	Fair	Fair	Fair	Poor
Lalor Gardens Primary School	Primary School	134 Kingsway Drive, Lalor	Poor	Fair	Poor	Poor	Poor	Poor
Lalor North Primary School	Primary School	2 Derna Crescent Lalor	Poor	Unusable	Fair	Fair	Good	Poor
Laurimar Primary School	Primary School	1 Armidale Road Doreen	Poor	Unusable	Unusable	Good	Poor	Excellent
Meadow Glen Primary School	Primary School	22-48 Meadow Glen Drive Epping	Good	Fair	Poor	Good	Good	Good
Mernda Park Primary School	Primary School	40 Riverdale Boulevard Mernda	Fair	Fair	Poor	Fair	Fair	Fair
Mernda Primary School	Primary School	25 Everton Drive Mernda	Unusable	Fair	Poor	Poor	Fair	Poor
Mill Park Heights Primary School	Primary School	87-93 Pindari Avenue Mill Park	Excellent	Excellent	Good	Good	Fair	Fair
Mill Park Primary School	Primary School	10 Blamey Avenue Mill Park	No Coverage	Good	Poor	Fair	Fair	Fair
Morang South Primary School	Primary School	77 Gorge Road South Morang	Poor	Good	Poor	Good	Poor	Poor
Norris Bank Primary School	Primary School	146 Settlement Road Bundoora	Excellent	Excellent	Good	Fair	Fair	Fair

Plenty Parklands Primary School	Primary School	48 Blossom Park Drive Mill Park	No Coverage	Poor	Unusable	Fair	Poor	Poor
St Catherine's Primary School	Primary School	2 Lascelles Drive Lalor West	Poor	Fair	Poor	Fair	Fair	Poor
St Clare's Primary School	Primary School	3 Harbard Street Thomastown	Fair	Fair	Good	Fair	Good	Unusable
St Damian's Primary School	Primary School	5 Settlement Road Bundoora	Excellent	Excellent	Excellent	Excellent	Excellent	Good
St Francis of Assisi Primary School	Primary School	312 Childs Road Mill Park	Good	Good	Excellent	Excellent	Excellent	Excellent
St John's Primary School	Primary School	17 Regal Avenue Thomastown	No Coverage	Excellent	Fair	Fair	Fair	Fair
St Joseph's Catholic Parish Primary School	Primary School	44 Mernda Village Drive Mernda	Fair	Fair	Fair	Good	Good	Good
St Luke's Primary School	Primary School	1A David Street Lalor	Good	Excellent	Excellent	Excellent	Fair	Good
St Mary of the Cross MacKillop Primary School	Primary School	47 Farmhouse Boulevard Epping North	Poor	Poor	Unusable	Poor	Poor	Poor
St Mary's Primary School	Primary School	20 Fir Street Whittlesea	Poor	Good	No Coverage	Fair	Fair	Fair
St Paul the Apostle Catholic Primary School	Primary School	St Paul the Apostle Catholic Primary School 80 Bassetts Road Doreen	Poor	Unusable	Poor	Poor	Poor	Unusable
St Peter's Primary School	Primary School	32 Wedge Street Epping	No Coverage	Good	Good	Good	Excellent	Good

The Lakes South Morang P-9 School (Junior campus) & Merriang Special Development School (Junior Campus)	Primary School	275 Gordons Rd South Morang	Fair	Poor	Poor	Fair	Fair	Fair
Thomastown East Primary School	Primary School	82 Cedar Street Thomastown	No Coverage	Fair	Fair	Fair	Fair	Poor
Thomastown Meadows Primary School	Primary School	13-21 Diplomat Drive Thomastown	Fair	Good	Fair	Poor	Fair	Fair
Thomastown Primary School	Primary School	10 Spring Street Thomastown	Fair	Fair	Fair	Good	Good	Fair
Thomastown West Primary School	Primary School	98-112 Main Street Thomastown	Poor	Fair	Fair	Poor	Good	Poor
Whittlesea Primary School	Primary School	2435 Plenty Road Whittlesea	Excellent	Excellent	No Coverage	Fair	Fair	Fair
Aurora Estate	Residential	Corner Garrong Avenue and, Dolly Wy, Wollert VIC 3076 Corner Edgars Road & Harvest Home Road, Wollert VIC	Fair	Fair	Fair	Fair	Fair	Fair
Kinbrook Estate	Residential	45-65 English Street, Donnybrook VIC 3064	Fair	Good	Fair	Excellent	Fair	Good
Olivine Estate	Residential	995 Donnybrook Road, Donnybrook Victoria 3064	Unusable	Poor	Unusable	Unusable	Unusable	Poor
Peppercorn Hill Estate	Residential	i.e. 17 Satinwood Cres, Donnybrook	Unusable	Poor	Fair	Poor	Fair	Poor
Al Siraat College	Secondary School	45 Harvest Home Road Epping	Good	Good	No Coverage	Excellent	No Coverage	Good
Edgars Creek Secondary College	Secondary School	2 Steen Ave Wollert	Good	Good	Good	Good	Poor	Good
Epping Secondary College	Secondary School	10 McDonalds Road Epping	Poor	Poor	Poor	Fair	Fair	Fair

Gilson College	Secondary School	370 Bridge Inn Road Mernda	Good	Excellent	Good	Good	Excellent	Excellent
Hazel Glen College	Secondary School	115 Eminence Boulevard Doreen	Poor	Fair	Poor	Fair	Fair	Unusable
Hume Grammar School – Donnybrook Campus	Secondary School	40 Eucalyptus Parade Donnybrook	Unusable	Fair	Fair	Poor	Poor	Unusable
Lalor North Secondary College	Secondary School	114 Childs Road Epping	Poor	Poor	Poor	Fair	Good	Fair
Lalor Secondary College	Secondary School	118 David Street Lalor	Unusable	Good	Fair	Fair	Fair	Unusable
Mernda Central College	Secondary School	70 Breadlbane Avenue Mernda	Good	Good	Fair	Fair	Good	Good
Merriang Special Development School (Middle and later years)	Secondary School	11 Duncan Road Lalor	Fair	Fair	Fair	Fair	Fair	Poor
Mill Park Secondary College (Junior Campus)	Secondary School	9-25 Moorhead Drive Mill Park	Good	Excellent	Good	Good	Excellent	Excellent
Mill Park Secondary College (Senior Campus)	Secondary School	19-33 Civic Drive Epping	Fair	Unusable	Fair	Fair	Good	Good
Northern School for Autism	Secondary School	2-4 Lyndon Street Lalor	Fair	Good	Good	Good	Fair	Fair
Northside Christian College	Secondary School	31 McLeans Road Bundoora	Fair	Excellent	Fair	Fair	Fair	Fair
Peter Lalor Secondary College	Secondary School	35 Duncan Road Lalor	Good	Fair	Good	Good	Fair	Fair
St Mary's College for Hearing Impaired Students & Marymede Catholic College	Secondary School	60 Williamsons Road South Morang	Poor	Unusable	Poor	Good	Good	Fair

St Monica's College - Epping	Secondary School	400 Dalton Road Epping	Poor	Unusable	Poor	Good	Good	Good
St Monica's College (Senior campus)	Secondary School	16 Davisson Street Epping	No Coverage	Fair	Fair	Fair	Excellent	Fair
The Lakes South Morang P-9 School (Middle campus)	Secondary School	80 Jardier Terrace South Morang	Good	Poor	Poor	Fair	Fair	Fair
Thomastown Secondary College	Secondary School	80 - 96 Main Street Thomastown	Fair	Poor	Poor	Poor	Poor	Poor
Whittlesea Secondary College	Secondary School	55 Laurel Street Whittlesea	Excellent	Excellent	No Coverage	Fair	Good	Fair
Cordalton Business Centre	Thomastown	16 Dunstons Court, Thomastown 3074	Good	Excellent	Excellent	Excellent	Excellent	Excellent
Dalton Link	Thomastown	7 Dalton Road, Thomastown 3074	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
Meridian Business Park	Thomastown	Heyington Avenue, Thomastown 3074	Good	Excellent	Good	Good	Excellent	Excellent
Mint Place Business Park	Thomastown	337 Settlement Road, Thomastown 3074	Good	Excellent	Good	Fair	Good	Good
Novo Business Park	Thomastown	324-326 Settlement Road, Thomastown 3074	Good	Excellent	Good	Good	Good	Good
Settlement Road Business Park	Thomastown	196 Settlement Road, Thomastown 3074	Good	Good	Fair	Excellent	Excellent	Excellent
Thomastown Business Park	Thomastown	44 MAhoney's Road, Thomastown 3074	No Coverage	Good	Good	Good	Excellent	Fair
Thomatown Homemaker Centre	Thomastown	308-320 Settlement Road, Thomastown 3074	Good	Excellent	Excellent	Good	Excellent	Excellent
Funfields	Tourism	2365 Plenty Road, Whittlesea Victoria 3757	Fair	Excellent	No Coverage	Fair	Good	Fair
Growling Frog Golf Course	Tourism	1910 Donnybrook Rd, Woodstock VIC 3751	Poor	Poor	No Coverage	Poor	Poor	poor
Whittlesea Courthouse, Lock-up and Visitor Information Centre	Tourism	Cnr Beech and Church Streets, Whittlesea 3757	Excellent	Excellent	No Coverage	Fair	Good	Fair
Yan Yean Reservoir Park	Tourism	Cnr Reservoir and Recreation Roads, Yan Yean 3755	Fair	Good	Unusable	Poor	Poor	Poor
Ziebell's Farmhouse Museum and Heritage Garden	Tourism	100 Gardenia Road, Thomastown VIC 3074, Australia	Fair	Fair	Fair	Poor	Fair	Fair

10 Enterprise Drive	University Hill Business Park	10 Enterprise Drive, Bundoora 3083	No Coverage	Excellent	Unusable	Fair	Poor	Poor
12 Ormond Boulevard	University Hill Business Park	12 Ormond Boulevard, Bundoora 3083	No Coverage	Excellent	Unusable	Fair	Fair	Poor
2 Enterprise Drive	University Hill Business Park	2 Enterprise Drive, Bundoora 3083	No Coverage	Excellent	Unusable	Fair	Poor	Poor
2 Scholar Drive	University Hill Business Park	2 Scholar Drive, Bundoora 3083	No Coverage	Excellent	Unusable	Poor	Poor	Poor
20 Enterprise Drive	University Hill Business Park	20 Enterprise Drive, Bundoora 3083	No Coverage	Excellent	Unusable	Fair	Poor	Poor
240 Plenty Road	University Hill Business Park	240 Plenty Road, Bundoora 3083	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
7 Ormond Boulevard	University Hill Business Park	7 Ormond Boulevard, Bundoora 3083	No Coverage	Excellent	Unusable	Poor	Poor	Unusable
9 Ormond Boulevard	University Hill Business Park	9 Ormond Boulevard, Bundoora 3083	No Coverage	Excellent	Unusable	Poor	Poor	Unusable
DFO Uni Hill	University Hill Business Park	2 Janefield Drive, Bundoora 3083	No Coverage	Excellent	Unusable	Poor	Fair	Fair
Graduate Business Park	University Hill Business Park	19 Enterprise Drive, Bundoora 3083	No Coverage	Excellent	Unusable	Good	Fair	Fair
University Hill Town Centre	University Hill Business Park	5 Janefield Drive, Bundoora 3083	No Coverage	Excellent	Poor	Good	Good	Fair
Vearings Road	Vearings Roads Employment Centre	25 Vearings Road, Epping 3076	Fair	Good	Unusable	Fair	Poor	Fair
Hazel Glen Child and Family Centre		65 Eminence Blvd, Doreen VIC 3754	Poor	Fair	Fair	Poor	Fair	Poor

Appendix 26 – Road Network Coverage

Road Name	Locality	Latitude	Longitude	Telstra 5G	Telstra 4G	Optus 5G	Optus 4G	TPG 5G	TPG 4G
Beveridge Road	BEVERIDGE	- 37.47411	145.0212	Fair	Fair	Null	Unusable	Fair	Unusable
Beveridge Road	BEVERIDGE	- 37.47364	145.0163	Fair	Fair	Null	Fair	Fair	Poor
Beveridge Road	BEVERIDGE	- 37.47297	145.0116	Null	Fair	Null	Poor	Poor	Poor
Beveridge Road	BEVERIDGE	- 37.47243	145.0054	Null	Excellent	Null	Poor	Null	Poor
Beveridge Road	BEVERIDGE	- 37.47183	145.0013	Null	Excellent	Null	Excellent	Null	Fair
Beveridge Road	BEVERIDGE	- 37.47149	144.9983	Null	Excellent	Null	Excellent	Null	Good
Glenburnie Road	BEVERIDGE	- 37.48240	145.0260	Null	Good	Null	Fair	Null	Unusable
Glenburnie Road	BEVERIDGE	- 37.48303	145.0329	Null	Excellent	Null	Poor	Unusable	Poor
Glenburnie Road	BEVERIDGE	- 37.48544	145.0385	Fair	Fair	Null	Unusable	Null	Unusable
Glenburnie Road	BEVERIDGE	- 37.48578	145.0420	Unusable	Poor	Null	Unusable	Null	Unusable
Glenburnie Road	BEVERIDGE	- 37.48896	145.0448	Poor	Good	Null	Unusable	Unusable	Unusable
Glenburnie Road	BEVERIDGE	- 37.49053	145.0464	Good	Excellent	Null	Unusable	Poor	Unusable
Grants Road	BEVERIDGE	- 37.52012	145.0360	Poor	Unusable	Null	Poor	Unusable	Unusable
Grants Road	BEVERIDGE	- 37.51953	145.0295	Fair	Fair	Unusable	Poor	Poor	Unusable
Janna Road	BEVERIDGE	- 37.48961	145.0244	Null	Fair	Null	Poor	Null	Unusable
Janna Road	BEVERIDGE	- 37.48941	145.0279	Null	Good	Null	Unusable	Null	Fair
Janna Road	BEVERIDGE	- 37.49022	145.0342	Fair	Good	Null	Poor	Unusable	Fair
Janna Road	BEVERIDGE	- 37.49095	145.0423	Fair	Good	Null	Unusable	Unusable	Unusable
Merriang Road	BEVERIDGE	- 37.51583	145.0263	Fair	Unusable	Null	Unusable	Fair	Unusable
Merriang Road	BEVERIDGE	- 37.49501	145.0252	Null	Fair	Null	Fair	Null	Unusable
Merriang Road	BEVERIDGE	- 37.48554	145.0230	Null	Good	Null	Poor	Null	Poor
Merriang Road	BEVERIDGE	- 37.47787	145.0247	Null	Good	Null	Unusable	Unusable	Unusable
Merriang Road	BEVERIDGE	- 37.47044	145.0295	Null	Good	Null	Poor	Null	Fair
Merriang Road	BEVERIDGE	- 37.46489	145.0315	Null	Good	Null	Unusable	Null	Unusable
Merriang Road	BEVERIDGE	- 37.45758	145.0315	Null	Poor	Null	Unusable	Null	Unusable

Merriang Road	BEVERIDGE	- 37.44983	145.0286	Null	Poor	Null	Poor	Null	Poor
Merriang Road	BEVERIDGE	- 37.47452	145.0248	Poor	Good	Null	Poor	Unusable	Unusable
Minton Street	BEVERIDGE	- 37.47123	144.9952	Null	Excellent	Null	Excellent	Null	Excellent
Plenty Road	BUNDOORA	- 37.69787	145.0589	Good	Excellent	Excellent	Good	Excellent	Excellent
Settlement Road	BUNDOORA	- 37.69722	145.0532	Good	Excellent	Good	Fair	Excellent	Fair
Settlement Road	BUNDOORA	- 37.69661	145.0481	Excellent	Excellent	Good	Fair	Fair	Fair
Settlement Road	BUNDOORA	- 37.69519	145.0440	Excellent	Excellent	Good	Excellent	Fair	Fair
Craigieburn Road E	CRAIGIEBURN	- 37.60019	144.9527	Good	Excellent	Unusable	Poor	Good	Poor
Boomgate Avenue	DONNYBROOK	- 37.54242	144.9674	Poor	Fair	Poor	Poor	Fair	Poor
Donnybrook Road	DONNYBROOK	- 37.54763	145.0181	Good	Unusable	Null	Poor	Unusable	Unusable
Donnybrook Road	DONNYBROOK	- 37.54405	144.9849	Poor	Fair	Poor	Poor	Fair	Poor
Donnybrook Road	DONNYBROOK	- 37.54341	144.9755	Unusable	Fair	Poor	Poor	Poor	Poor
Donnybrook Road	DONNYBROOK	- 37.54132	144.9593	Unusable	Poor	Poor	Poor	Fair	Unusable
Unnamed	DONNYBROOK	- 37.54575	144.9998	Unusable	Poor	Unusable	Poor	Unusable	Unusable
Breakwater Drive	DOREEN	- 37.60337	145.1195	Fair	Poor	Poor	Poor	Fair	Poor
Bridge Inn Road	DOREEN	- 37.60483	145.1326	Good	Poor	Good	Good	Excellent	Good
Coolong Terrace	DOREEN	- 37.61098	145.1373	Poor	Unusable	Excellent	Excellent	Excellent	Good
Homelea Street	DOREEN	- 37.60422	145.1272	Poor	Unusable	Fair	Fair	Good	Fair
Mitchells Run	DOREEN	- 37.59408	145.1403	Good	Good	Null	Good	Excellent	Good
Unnamed	DOREEN	- 37.61976	145.1358	Fair	Fair	Null	Fair	Excellent	Good
Woodridge Crescent	DOREEN	- 37.60241	145.1116	Fair	Poor	Poor	Poor	Fair	Fair
Yan Yean Road	DOREEN	- 37.61624	145.1365	Fair	Poor	Fair	Fair	Excellent	Good
Yan Yean Road	DOREEN	- 37.60328	145.1385	Poor	Good	Fair	Fair	Fair	Fair
Yellow Brick Road	DOREEN	- 37.60564	145.1380	Fair	Good	Poor	Poor	Fair	Fair
Yellow Brick Road	DOREEN	- 37.60531	145.1366	Fair	Fair	Fair	Fair	Fair	Fair
Fourth Avenue	EDEN PARK	- 37.49563	145.0818	Fair	Fair	Null	Unusable	Unusable	Unusable
Glenburnie Road	EDEN PARK	- 37.49276	145.0500	Unusable	Fair	Null	Fair	Poor	Unusable
Glenburnie Road	EDEN PARK	- 37.49475	145.0554	Unusable	Good	Null	Fair	Fair	Unusable
Glenburnie Road	EDEN PARK	- 37.49412	145.0600	Null	Good	Null	Good	Fair	Poor

Glenburnie Road	EDEN PARK	- 37.49158	145.0624	Null	Good	Null	Poor	Good	Unusable
Glenburnie Road	EDEN PARK	- 37.49350	145.0671	Null	Excellent	Null	Unusable	Poor	Unusable
Grants Road	EDEN PARK	- 37.52327	145.0630	Unusable	Poor	Unusable	Poor	Unusable	Unusable
Grants Road	EDEN PARK	- 37.52191	145.0506	Unusable	Unusable	Null	Unusable	Unusable	Unusable
Sixth Avenue	EDEN PARK	- 37.52378	145.0689	Unusable	Poor	Unusable	Poor	Poor	Unusable
Wallan Road	EDEN PARK	- 37.44948	145.0665	Null	Poor	Null	Unusable	Null	Unusable
Wallan Road	EDEN PARK	- 37.45527	145.0696	Null	Poor	Null	#N/A	Null	Unusable
Bridle Court	EPPING	- 37.64670	145.0494	Good	Fair	Unusable	Poor	Good	Poor
Bud Lane	EPPING	- 37.63050	145.0061	Excellent	Excellent	Null	Excellent	Good	Excellent
Childs Road	EPPING	- 37.66041	145.0256	Fair	Poor	Poor	Fair	Fair	Fair
Childs Road	EPPING	- 37.66127	145.0312	Poor	Fair	Poor	Good	Good	Fair
Cooper Street	EPPING	- 37.64679	144.9743	Poor	Good	Fair	Fair	Fair	Fair
Cooper Street	EPPING	- 37.64781	144.9888	Fair	Fair	Poor	Poor	Fair	Fair
Cooper Street	EPPING	- 37.64939	145.0014	Fair	Good	Poor	Fair	Good	Fair
Cooper Street	EPPING	- 37.65266	145.0317	Null	Fair	Excellent	Excellent	Excellent	Excellent
Edgars Road	EPPING	- 37.65554	145.0061	Fair	Fair	Poor	Poor	Good	Fair
Edgars Road	EPPING	- 37.65291	145.0056	Fair	Good	Fair	Good	Excellent	Good
Edgars Road	EPPING	- 37.64988	145.0054	Fair	Fair	Poor	Poor	Good	Fair
Edgars Road	EPPING	- 37.63948	145.0060	Excellent	Excellent	Fair	Fair	Good	Good
Edgars Road	EPPING	- 37.63426	145.0058	Good	Excellent	Null	Excellent	Fair	Excellent
Epping Road	EPPING	- 37.62681	145.0282	Excellent	Excellent	Null	Excellent	Null	Good
Findon Road	EPPING	- 37.63814	145.0265	Fair	Poor	Poor	Fair	Null	Fair
Fullarton Drive	EPPING	- 37.65085	145.0138	Null	Good	Good	Good	Excellent	Excellent
Grand Parade	EPPING	- 37.65599	145.0309	Null	Unusable	Good	Excellent	Excellent	Excellent
Greenbrook Drive	EPPING	- 37.64553	145.0373	Poor	Poor	Poor	Good	Null	Fair
Harvest Home Road	EPPING	- 37.62353	145.0287	Excellent	Excellent	Null	Excellent	Null	Excellent
High Street	EPPING	- 37.65965	145.0190	Fair	Fair	Unusable	Poor	Fair	Fair
High Street	EPPING	- 37.65317	145.0228	Null	Good	Good	Fair	Excellent	Excellent
High Street	EPPING	- 37.64794	145.0260	Null	Fair	Poor	Poor	Fair	Fair

High Street	EPPING	- 37.64480	145.0263	Fair	Fair	Poor	Fair	Fair	Fair
Howard Street	EPPING	- 37.65217	145.0270	Null	Fair	Good	Excellent	Good	Good
Larkspur Close	EPPING	- 37.64782	145.0584	Fair	Poor	Poor	Fair	Null	Fair
Mcdonalds Road	EPPING	- 37.64630	145.0449	Fair	Fair	Poor	Fair	Good	Fair
Mcdonalds Road	EPPING	- 37.64749	145.0554	Fair	Poor	Poor	Poor	Null	Poor
Mcdonalds Road	EPPING	- 37.64841	145.0633	Excellent	Unusable	Fair	Fair	Good	Fair
Memorial Avenue	EPPING	- 37.64495	145.0307	Null	Poor	Poor	Fair	Fair	Fair
Mujeres Walk	EPPING	- 37.63709	145.0243	Fair	Poor	Poor	Poor	Good	Fair
Oherns Road	EPPING	- 37.63058	144.9583	Good	Excellent	Null	Good	Excellent	Good
Oherns Road	EPPING	- 37.63172	144.9704	Good	Fair	Good	Fair	Poor	Poor
Oherns Road	EPPING	- 37.63353	144.9892	Good	Excellent	Poor	Fair	Poor	Fair
Oherns Road	EPPING	- 37.63461	145.0012	Excellent	Excellent	Fair	Excellent	Poor	Fair
Oherns Road	EPPING	- 37.63333	144.9856	Fair	Good	Unusable	Fair	Poor	Poor
Oherns Road	EPPING	- 37.63259	144.9803	Fair	Good	Poor	Fair	Fair	Fair
Saxony Drive	EPPING	- 37.63624	145.0159	Null	Poor	Fair	Fair	Fair	Fair
Tarnalla Lane	EPPING	- 37.62397	145.0052	Excellent	Excellent	Unusable	Unusable	Poor	Unusable
Taryn Drive	EPPING	- 37.64710	145.0063	Fair	Fair	Fair	Fair	Good	Good
Unnamed	EPPING	- 37.63634	145.0267	Fair	Fair	Poor	Fair	Null	Fair
Unnamed	EPPING	- 37.63112	144.9846	Poor	Fair	Unusable	Fair	Poor	Poor
Vearings Road	EPPING	- 37.62173	144.9875	Null	Null	Null	Null	Null	Null
Vearings Road	EPPING	- 37.62797	144.9863	Null	Null	Null	Null	Null	Null
Vearings Road	EPPING	- 37.63098	144.9859	Fair	Good	Unusable	Fair	Poor	Fair
Vearings Road	EPPING	- 37.63092	144.9820	Poor	Fair	Unusable	Good	Fair	Poor
Vearings Road	EPPING	- 37.63145	144.9805	Fair	Good	Poor	Fair	Fair	Fair
Willandra Drive	EPPING	- 37.64384	145.0073	Poor	Good	Fair	Fair	Good	Good
Woodcutters Grove	EPPING	- 37.63190	145.0273	Fair	Fair	Null	Good	Null	Poor
Woodcutters Grove	EPPING	- 37.62885	145.0278	Fair	Fair	Null	Good	Null	Fair
Humevale Road	HUMEVALE	- 37.48944	145.2217	Null	Unusable	Null	Poor	Null	Unusable
Humevale Road	HUMEVALE	- 37.49326	145.2213	Null	Unusable	Null	Poor	Null	Unusable

Humevale Road	HUMEVALE	- 37.49992	145.2178	Null	Unusable	Null	Poor	Null	Unusable
Humevale Road	HUMEVALE	- 37.50121	145.2091	Null	Unusable	Null	Unusable	Null	Unusable
Humevale Road	HUMEVALE	- 37.50206	145.2049	Null	#N/A	Null	Unusable	Null	Unusable
Humevale Road	HUMEVALE	- 37.50219	145.2010	Null	Unusable	Null	Unusable	Null	Unusable
Humevale Road	HUMEVALE	- 37.50208	145.1931	Null	Unusable	Null	Unusable	Null	Unusable
Humevale Road	HUMEVALE	- 37.49983	145.1900	Null	Unusable	Null	Unusable	Null	Unusable
Humevale Road	HUMEVALE	- 37.50056	145.1864	Unusable	#N/A	Null	Unusable	Null	Unusable
Humevale Road	HUMEVALE	- 37.49784	145.1831	Unusable	Unusable	Null	Poor	Null	Poor
Humevale Road	HUMEVALE	- 37.49748	145.1773	Unusable	Unusable	Null	Poor	Null	Poor
Humevale Road	HUMEVALE	- 37.49695	145.1722	Poor	Unusable	Null	Unusable	Null	Poor
Humevale Road	HUMEVALE	- 37.49572	145.1696	Unusable	Poor	Null	Unusable	Null	Unusable
Humevale Road	HUMEVALE	- 37.49594	145.1646	Poor	Fair	Null	Fair	Null	Poor
Humevale Road	HUMEVALE	- 37.49516	145.1586	Poor	Poor	Null	Poor	Fair	Unusable
Parkers Road	HUMEVALE	- 37.49864	145.1857	Unusable	Unusable	Null	Poor	Null	Poor
Ridge Road	HUMEVALE	- 37.53539	145.1817	Null	Poor	Null	Fair	Poor	Poor
Ridge Road	HUMEVALE	- 37.52803	145.1776	Unusable	Unusable	Null	Unusable	Unusable	Poor
Ridge Road	HUMEVALE	- 37.52454	145.1691	Null	#N/A	Null	Unusable	Unusable	Unusable
Ridge Road	HUMEVALE	- 37.51802	145.1623	Unusable	Poor	Null	Poor	Fair	Unusable
Ridge Road	HUMEVALE	- 37.51614	145.1550	Poor	Fair	Null	Fair	Poor	Fair
Unnamed	HUMEVALE	- 37.49094	145.2201	Null	Unusable	Null	Poor	Null	Unusable
Unnamed	HUMEVALE	- 37.49554	145.2206	Null	Unusable	Null	Unusable	Null	Unusable
Whittlesea - Yea Road	HUMEVALE	- 37.49017	145.1635	Unusable	Poor	Null	Poor	Unusable	Poor
Whittlesea - Yea Road	HUMEVALE	- 37.48894	145.1710	Fair	Fair	Null	Fair	Poor	Poor
Whittlesea - Yea Road	HUMEVALE	- 37.48976	145.1779	Fair	Fair	Null	Poor	Poor	Poor
Whittlesea - Yea Road	HUMEVALE	- 37.48991	145.1812	Unusable	Fair	Null	Poor	Poor	Unusable
Whittlesea - Yea Road	HUMEVALE	- 37.48705	145.1834	Poor	Fair	Null	Fair	Poor	Poor
Whittlesea - Yea Road	HUMEVALE	- 37.48548	145.1869	Poor	Poor	Null	Fair	Poor	Poor
Whittlesea - Yea Road	HUMEVALE	- 37.48536	145.1907	Fair	Poor	Null	Fair	Poor	Unusable
Whittlesea - Yea Road	HUMEVALE	- 37.48379	145.1949	Poor	Fair	Null	Unusable	Poor	Unusable

Whittlesea - Yea Road	HUMEVALE	- 37.48339	145.1980	Unusable	Poor	Null	Unusable	Poor	Poor
Whittlesea - Yea Road	HUMEVALE	- 37.48506	145.2013	Unusable	Poor	Null	Fair	Poor	Fair
Whittlesea - Yea Road	HUMEVALE	- 37.48919	145.2053	Unusable	Unusable	Null	Poor	Unusable	Unusable
Whittlesea - Yea Road	HUMEVALE	- 37.49095	145.2084	Unusable	Poor	Null	#N/A	Unusable	Unusable
Whittlesea - Yea Road	HUMEVALE	- 37.49012	145.2132	Null	Unusable	Null	Unusable	Null	Unusable
Whittlesea - Yea Road	HUMEVALE	- 37.48939	145.2187	Null	Unusable	Null	Poor	Null	Unusable
Whittlesea - Yea Road	HUMEVALE	- 37.48719	145.2225	Null	Unusable	Null	Poor	Null	Unusable
Whittlesea - Yea Road	HUMEVALE	- 37.48491	145.2266	Null	Unusable	Null	Fair	Null	Unusable
Whittlesea - Yea Road	HUMEVALE	- 37.48070	145.2290	Null	Unusable	Null	Poor	Null	Unusable
Whittlesea - Kinglake Road	KINGLAKE WEST	- 37.47621	145.2366	Null	Excellent	Null	Poor	Null	#N/A
Childs Road	LALOR	- 37.65993	145.0219	Poor	Unusable	Poor	Fair	Fair	Poor
Curtin Avenue	LALOR	- 37.66501	145.0326	Fair	Fair	Fair	Good	Fair	Fair
Edgars Road	LALOR	- 37.66263	145.0059	Unusable	Poor	Unusable	Unusable	Poor	Poor
Edgars Road	LALOR	- 37.65843	145.0074	Poor	Fair	Good	Fair	Excellent	Fair
High Street	LALOR	- 37.66862	145.0164	Good	Fair	Fair	Fair	Fair	Poor
High Street	LALOR	- 37.66097	145.0187	Fair	Unusable	Unusable	Poor	Fair	Unusable
Midway Crescent	LALOR	- 37.66072	145.0298	Null	Poor	Fair	Good	Good	Fair
Mindoro Crescent	LALOR	- 37.66107	145.0330	Poor	Poor	Poor	Fair	Good	Fair
Tambor Court	LALOR	- 37.66794	145.0040	Poor	Fair	Fair	Fair	Fair	Fair
Bridge Inn Road	MERNDA	- 37.60157	145.1038	Fair	Poor	Poor	Poor	Fair	Unusable
Bridge Inn Road	MERNDA	- 37.59638	145.0606	Good	Good	Unusable	Fair	Poor	Unusable
Bridge Inn Road	MERNDA	- 37.59779	145.0707	Good	Good	Fair	Fair	Fair	Good
Etherington Drive	MERNDA	- 37.59887	145.0789	Good	Good	Good	Good	Good	Good
Unnamed	MERNDA	- 37.60065	145.0962	Fair	Unusable	Fair	Fair	Good	Good
Unnamed	MERNDA	- 37.59963	145.0882	Poor	Poor	Fair	Fair	Fair	Fair
Childs Road	MILL PARK	- 37.66155	145.0373	Fair	Fair	Unusable	Poor	Fair	Fair
Childs Road	MILL PARK	- 37.66247	145.0494	Good	Good	Unusable	Fair	Good	Good
Childs Road	MILL PARK	- 37.66217	145.0529	Excellent	Excellent	Poor	Good	Good	Excellent
Childs Road	MILL PARK	- 37.66286	145.0556	Excellent	Excellent	Poor	Fair	Good	Excellent

Childs Road	MILL PARK	- 37.66648	145.0592	Null	Good	Excellent	Fair	Excellent	Good
Childs Road	MILL PARK	- 37.66787	145.0609	Null	Good	Excellent	Good	Excellent	Excellent
Childs Road	MILL PARK	- 37.66960	145.0651	Null	Fair	Good	Excellent	Excellent	Good
Childs Road	MILL PARK	- 37.66990	145.0687	Null	Good	Fair	Fair	Excellent	Good
Mcdonalds Road	MILL PARK	- 37.65062	145.0760	Good	Good	Unusable	Good	Good	Good
Unnamed	MILL PARK	- 37.66192	145.0415	Fair	Good	Poor	Fair	Fair	Fair
Unnamed	MILL PARK	- 37.66240	145.0453	Good	Good	Poor	Good	Fair	Fair
Unnamed	MILL PARK	- 37.67053	145.0713	Null	Poor	Good	Good	Excellent	Excellent
Unnamed	MILL PARK	- 37.65201	145.0660	Excellent	Poor	Good	Fair	Good	Fair
Civic Drive	SOUTH MORANG	- 37.64552	145.0646	Good	Unusable	Good	Excellent	Good	Good
Civic Drive	SOUTH MORANG	- 37.64738	145.0656	Excellent	Unusable	Fair	Good	Good	Good
Gorge Road	SOUTH MORANG	- 37.65164	145.0927	Fair	Poor	Poor	Poor	Fair	Poor
Gorge Road	SOUTH MORANG	- 37.65226	145.0982	Fair	Fair	Fair	Poor	Fair	Poor
Gorge Road	SOUTH MORANG	- 37.65240	145.1008	Fair	Poor	Poor	Poor	Fair	Unusable
Gorge Road	SOUTH MORANG	- 37.65143	145.1027	Unusable	Poor	Unusable	Unusable	Null	Poor
Gorge Road	SOUTH MORANG	- 37.65046	145.1028	Poor	Unusable	Unusable	Unusable	Null	Unusable
Gorge Road	SOUTH MORANG	- 37.64949	145.1029	Poor	Unusable	Unusable	Unusable	Null	Unusable
Kurrak Road	SOUTH MORANG	- 37.64958	145.1039	Poor	Unusable	Unusable	Unusable	Null	Unusable
Mcdonalds Road	SOUTH MORANG	- 37.64929	145.0663	Excellent	Poor	Fair	Good	Good	Good
Mcdonalds Road	SOUTH MORANG	- 37.65127	145.0883	Excellent	Excellent	Good	Excellent	Good	Fair
Mcdonalds Road	SOUTH MORANG	- 37.64857	145.0670	Excellent	Fair	Fair	Good	Good	Good
Mcdonalds Road	SOUTH MORANG	- 37.64922	145.0699	Good	Fair	Fair	Fair	Excellent	Good
Mcdonalds Road	SOUTH MORANG	- 37.64958	145.0721	Good	Fair	Unusable	Good	Excellent	Excellent
Mcdonalds Road	SOUTH MORANG	- 37.65067	145.0820	Good	Excellent	Excellent	Excellent	Excellent	Excellent
Unnamed	SOUTH MORANG	- 37.64445	145.0640	Good	Poor	Good	Good	Null	Excellent
Austarc Avenue	THOMASTOWN	- 37.68681	145.0128	Excellent	Good	Excellent	Excellent	Excellent	Good
Brand Drive	THOMASTOWN	- 37.69387	145.0342	Good	Excellent	Excellent	Good	Excellent	Good
Comalco Court	THOMASTOWN	- 37.69020	145.0023	Null	Good	Fair	Fair	Excellent	Fair
Dalton Road	THOMASTOWN	- 37.69611	145.0223	Null	Excellent	Excellent	Excellent	Excellent	Excellent

Edgars Road	THOMASTOWN	- 37.68530	145.0025	Poor	Fair	Fair	Excellent	Good	Fair
Edgars Road	THOMASTOWN	- 37.68260	144.9995	Poor	Fair	Poor	Fair	Good	Fair
Edgars Road	THOMASTOWN	- 37.67844	144.9992	Poor	Poor	Fair	Fair	Fair	Poor
Edgars Road	THOMASTOWN	- 37.67379	145.0011	Poor	Poor	Poor	Poor	Poor	Good
High Street	THOMASTOWN	- 37.68337	145.0134	Good	Good	Good	Good	Excellent	Fair
Keon Parade	THOMASTOWN	- 37.69530	145.0153	Null	Good	Good	Fair	Excellent	Fair
Keon Parade	THOMASTOWN	- 37.69570	145.0193	Null	Good	Good	Fair	Excellent	Fair
Mahoneys Road	THOMASTOWN	- 37.69389	145.0008	Null	Good	Good	Good	Excellent	Good
Mahoneys Road	THOMASTOWN	- 37.69121	144.9735	Null	Excellent	Excellent	Excellent	Excellent	Excellent
Mahoneys Road	THOMASTOWN	- 37.69209	144.9840	Null	Excellent	Excellent	Excellent	Excellent	Excellent
Mahoneys Road	THOMASTOWN	- 37.69331	144.9964	Null	Excellent	Fair	Fair	Excellent	Poor
Mahoneys Road	THOMASTOWN	- 37.69440	145.0070	Null	Good	Good	Good	Excellent	Fair
Northgate Drive	THOMASTOWN	- 37.68957	145.0280	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
Parklands Drive	THOMASTOWN	- 37.68524	145.0290	Null	Good	Fair	Fair	Fair	Poor
Settlement Road	THOMASTOWN	- 37.69446	145.0406	Good	Good	Fair	Fair	Excellent	Good
Settlement Road	THOMASTOWN	- 37.69131	145.0290	Fair	Good	Good	Excellent	Excellent	Good
Settlement Road	THOMASTOWN	- 37.68785	145.0124	Excellent	Excellent	Excellent	Excellent	Excellent	Good
Temple Drive	THOMASTOWN	- 37.68852	145.0194	Good	Good	Good	Good	Excellent	Good
Unnamed	THOMASTOWN	- 37.69059	145.0269	Good	Excellent	Excellent	Excellent	Excellent	Excellent
Unnamed	THOMASTOWN	- 37.69485	145.0114	Null	Excellent	Excellent	Excellent	Excellent	Excellent
Unnamed	THOMASTOWN	- 37.67761	145.0143	Excellent	Excellent	Good	Good	Good	Fair
Wattle Street	THOMASTOWN	- 37.67798	145.0303	Null	Excellent	Fair	Fair	Good	Poor
Wood Street	THOMASTOWN	- 37.69346	145.0299	Good	Excellent	Fair	Excellent	Excellent	Excellent
Wood Street	THOMASTOWN	- 37.69341	145.0292	Good	Excellent	Good	Excellent	Excellent	Excellent
Wood Street	THOMASTOWN	- 37.69318	145.0271	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
Wood Street	THOMASTOWN	- 37.69311	145.0261	Good	Excellent	Excellent	Excellent	Excellent	Excellent
Wood Street	THOMASTOWN	- 37.69305	145.0252	Good	Excellent	Excellent	Excellent	Excellent	Excellent
Beech Street	WHITTLESEA	- 37.51074	145.1162	Good	Excellent	Null	Fair	Fair	Fair
Beech Street	WHITTLESEA	- 37.51081	145.1175	Good	Excellent	Null	Good	Fair	Fair

Beech Street	WHITTLESEA	- 37.51092	145.1186	Good	Excellent	Null	Fair	Good	Fair
Beech Street	WHITTLESEA	- 37.51117	145.1225	Excellent	Excellent	Null	Fair	Fair	Fair
Clarks Road	WHITTLESEA	- 37.49789	145.1003	Unusable	Poor	Null	Fair	Null	Unusable
Fore Street	WHITTLESEA	- 37.51038	145.1330	Good	Good	Null	Good	Excellent	Good
Forest Street	WHITTLESEA	- 37.51115	145.1205	Excellent	Excellent	Null	Excellent	Excellent	Good
Glenburnie Road	WHITTLESEA	- 37.49699	145.0928	Unusable	Poor	Null	Poor	Unusable	Poor
Grants Road	WHITTLESEA	- 37.52540	145.1072	Fair	Good	Null	Poor	Fair	Poor
Grants Road	WHITTLESEA	- 37.52447	145.1044	Fair	Good	Null	Unusable	Unusable	Poor
Grants Road	WHITTLESEA	- 37.52600	145.1004	Fair	Fair	Fair	Poor	Unusable	Unusable
Humevale Road	WHITTLESEA	- 37.49404	145.1566	Good	Good	Null	Good	Fair	Fair
Macmeikan Street	WHITTLESEA	- 37.51414	145.1149	Excellent	Excellent	Null	Fair	Good	Good
Macmeikan Street	WHITTLESEA	- 37.51300	145.1154	Good	Excellent	Null	Poor	Fair	Poor
Macmeikan Street	WHITTLESEA	- 37.51120	145.1157	Good	Excellent	Null	Fair	Fair	Poor
Macmeikan Street	WHITTLESEA	- 37.51080	145.1160	Fair	Excellent	Null	Fair	Fair	Fair
Macmeikan Street	WHITTLESEA	- 37.51053	145.1157	Excellent	Excellent	Null	Poor	Fair	Poor
Macmeikan Street	WHITTLESEA	- 37.50944	145.1159	Poor	Good	Null	Poor	Poor	Poor
Plenty Road	WHITTLESEA	- 37.52540	145.1120	Null	Good	Null	Unusable	Poor	Unusable
Ridge Road	WHITTLESEA	- 37.51509	145.1501	Fair	Good	Null	Good	Good	Fair
Ridge Road	WHITTLESEA	- 37.51178	145.1449	Poor	Poor	Null	Fair	Fair	Fair
Ridge Road	WHITTLESEA	- 37.51070	145.1375	Good	Unusable	Null	Fair	Good	Fair
Showgrounds Road	WHITTLESEA	- 37.50845	145.1301	Good	Poor	Null	Fair	Good	Good
Unnamed	WHITTLESEA	- 37.50708	145.1317	Good	Poor	Null	Fair	Good	Good
Unnamed	WHITTLESEA	- 37.50471	145.1361	Good	Excellent	Null	Good	Excellent	Good
Wallan Road	WHITTLESEA	- 37.45862	145.0791	Null	Good	Null	Unusable	Null	Poor
Wallan Road	WHITTLESEA	- 37.46218	145.0942	Null	Poor	Null	Unusable	Null	Poor
Wallan Road	WHITTLESEA	- 37.47388	145.1002	Unusable	Poor	Null	Poor	Unusable	Unusable
Wallan Road	WHITTLESEA	- 37.48844	145.1012	Poor	Poor	Null	Unusable	Null	Unusable
Wallan Road	WHITTLESEA	- 37.49607	145.1076	Unusable	Fair	Null	Poor	Fair	Poor
Wallan Road	WHITTLESEA	- 37.50696	145.1104	Poor	Fair	Null	Unusable	Unusable	Unusable

Wallan Road	WHITTLESEA	- 37.49884	145.1082	Poor	Fair	Null	Poor	Fair	Poor
Walnut Street	WHITTLESEA	- 37.51198	145.1138	Fair	Excellent	Null	Fair	Good	Fair
Whittlesea - Yea Road	WHITTLESEA	- 37.51072	145.1251	Fair	Good	Null	Good	Good	Good
Whittlesea - Yea Road	WHITTLESEA	- 37.51065	145.1277	Fair	Fair	Null	Good	Excellent	Good
Whittlesea - Yea Road	WHITTLESEA	- 37.50835	145.1360	Good	Good	Null	Poor	Excellent	Fair
Whittlesea - Yea Road	WHITTLESEA	- 37.50460	145.1389	Fair	Good	Null	Good	Fair	Good
Whittlesea - Yea Road	WHITTLESEA	- 37.50133	145.1435	Poor	Fair	Null	Fair	Good	Poor
Whittlesea - Yea Road	WHITTLESEA	- 37.49746	145.1502	Poor	Fair	Null	Fair	Good	Poor
Whittlesea - Yea Road	WHITTLESEA	- 37.50570	145.1375	Poor	Good	Null	Poor	Good	Poor
Wildwood Road	WHITTLESEA	- 37.48330	145.0998	Good	Good	Null	Unusable	Poor	Poor
Wildwood Road	WHITTLESEA	- 37.48393	145.1074	Unusable	Fair	Null	Poor	Fair	Poor
Wildwood Road	WHITTLESEA	- 37.48513	145.1154	Unusable	Good	Null	Fair	Fair	Fair
Wildwood Road	WHITTLESEA	- 37.48607	145.1250	Poor	Fair	Null	Unusable	Null	Poor
Wildwood Road	WHITTLESEA	- 37.48712	145.1350	Unusable	Poor	Null	Poor	Null	Fair
Wildwood Road	WHITTLESEA	- 37.48805	145.1386	Fair	Poor	Null	Poor	Poor	Poor
Wildwood Road	WHITTLESEA	- 37.49067	145.1380	Poor	Fair	Null	Fair	Poor	Poor
Wildwood Road	WHITTLESEA	- 37.49481	145.1387	Unusable	Good	Null	Poor	Poor	Unusable
Wildwood Road	WHITTLESEA	- 37.50261	145.1367	Good	Excellent	Null	Good	Good	Good
Wildwood Road	WHITTLESEA	- 37.50445	145.1347	Good	Good	Null	Fair	Excellent	Fair
Black Angus Road	WOLLERT	- 37.60093	144.9923	Poor	Poor	Fair	Poor	Poor	Unusable
Black Angus Road	WOLLERT	- 37.60081	144.9926	Poor	Poor	Fair	Unusable	Poor	Unusable
Bloom Crescent	WOLLERT	- 37.61295	145.0306	Excellent	Good	Good	Good	Null	Excellent
Boundary Road	WOLLERT	- 37.59399	145.0337	Unusable	Poor	Unusable	Fair	Null	Unusable
Bridge Inn Road	WOLLERT	- 37.59497	145.0468	Excellent	Fair	Fair	Fair	Unusable	Poor
Brunning Rise	WOLLERT	- 37.60689	145.0176	Excellent	Excellent	Null	Excellent	Null	Good
Craigieburn Road	WOLLERT	- 37.60763	145.0240	Excellent	Excellent	Null	Excellent	Null	Excellent
Craigieburn Road	WOLLERT	- 37.60483	144.9934	Fair	Fair	Unusable	Poor	Fair	Fair
Craigieburn Road	WOLLERT	- 37.60368	144.9819	Good	Excellent	Good	Poor	Good	Good
Craigieburn Road	WOLLERT	- 37.60256	144.9723	Excellent	Excellent	Good	Excellent	Excellent	Excellent

Craigieburn Road	WOLLERT	- 37.60173	144.9646	Fair	Good	Fair	Fair	Good	Good
Edgars Road	WOLLERT	- 37.61973	145.0049	Good	Good	Poor	Poor	Null	Poor
Edgars Road	WOLLERT	- 37.61592	145.0047	Good	Good	Fair	Good	Null	Good
Edgars Road	WOLLERT	- 37.60851	145.0060	Fair	Good	Fair	Fair	Null	Fair
Edgars Road	WOLLERT	- 37.59969	145.0100	Excellent	Good	Null	Good	Null	Fair
Edgars Road	WOLLERT	- 37.59876	145.0118	Excellent	Excellent	Null	Good	Null	Fair
Edgars Road	WOLLERT	- 37.59752	145.0128	Null	Excellent	Null	Good	Null	Fair
Epping Road	WOLLERT	- 37.62189	145.0290	Fair	Fair	Null	Excellent	Null	Good
Epping Road	WOLLERT	- 37.60552	145.0318	Good	Good	Fair	Good	Null	Good
Epping Road	WOLLERT	- 37.59729	145.0331	Poor	Unusable	Unusable	Fair	Null	Poor
Epping Road	WOLLERT	- 37.58938	145.0335	Unusable	Unusable	Unusable	Poor	Null	Unusable
Epping Road	WOLLERT	- 37.58175	145.0332	Unusable	Fair	Unusable	Poor	Null	Unusable
Hayloft Way	WOLLERT	- 37.60111	145.0080	Fair	Fair	Null	Poor	Null	Poor
Hume Freeway	WOLLERT	- 37.60104	144.9578	Fair	Excellent	Poor	Fair	Excellent	Fair
Hume Freeway	WOLLERT	- 37.61494	144.9884	Null	Excellent	Null	Null	Null	Null
Lakeside Drive	WOLLERT	- 37.60444	145.0063	Good	Good	Fair	Poor	Null	Poor
Lauradan Way	WOLLERT	- 37.60231	145.0067	Fair	Fair	Null	Poor	Null	Poor
Manorwood Crescent	WOLLERT	- 37.60571	145.0044	Fair	Excellent	Poor	Good	Null	Good
Manorwood Crescent	WOLLERT	- 37.60585	145.0058	Good	Excellent	Fair	Good	Null	Good
Melksham Avenue	WOLLERT	- 37.60306	144.9906	Poor	Fair	Unusable	Poor	Fair	Poor
Piccadilly Drive	WOLLERT	- 37.60068	144.9928	Poor	Fair	Fair	Unusable	Fair	Fair
Ruma Way	WOLLERT	- 37.61802	145.0297	Fair	Fair	Null	Excellent	Null	Good
Snowy Place	WOLLERT	- 37.61271	145.0067	Good	Excellent	Fair	Good	Null	Good
Trowbridge Drive	WOLLERT	- 37.60035	144.9928	Fair	Fair	Fair	Unusable	Fair	Fair
Trowbridge Drive	WOLLERT	- 37.60016	144.9928	Fair	Fair	Fair	Unusable	Fair	Poor
Unnamed	WOLLERT	- 37.60839	145.0312	Excellent	Good	Fair	Good	Null	Good
Unnamed	WOLLERT	- 37.59987	144.9913	Fair	Fair	Fair	Unusable	Good	Fair
Unnamed	WOLLERT	- 37.59902	144.9915	Fair	Fair	Poor	Unusable	Fair	Poor
Vearings Road	WOLLERT	- 37.60435	144.9904	Fair	Fair	Unusable	Fair	Good	Fair

Vearings Road	WOLLERT	- 37.59822	144.9915	Poor	Poor	Poor	Poor	Unusable	Poor
Vearings Road	WOLLERT	- 37.59677	144.9917	Poor	Fair	Unusable	Poor	Poor	Poor
Vearings Road	WOLLERT	- 37.61919	144.9879	Null	Null	Null	Null	Null	Null
Westferry Avenue	WOLLERT	- 37.60143	144.9909	Good	Good	Poor	Poor	Excellent	Fair
Wimmera Crescent	WOLLERT	- 37.60633	145.0110	Good	Excellent	Null	Good	Null	Good
Donnybrook Road	WOODSTOCK	- 37.55134	145.0525	Null	Fair	Null	Poor	Poor	Poor
Donnybrook Road	WOODSTOCK	- 37.54960	145.0351	Null	Unusable	Null	Unusable	Unusable	Unusable
Donnybrook Road	WOODSTOCK	- 37.55282	145.0667	Null	Poor	Null	Poor	Fair	Poor
Epping Road	WOODSTOCK	- 37.56598	145.0324	Null	Fair	Null	Fair	Null	Unusable
Epping Road	WOODSTOCK	- 37.55396	145.0313	Null	Poor	Null	Unusable	Null	Unusable
Gibbs Lane	WOODSTOCK	- 37.54448	145.0233	Null	Poor	Null	Poor	Unusable	Poor
Grants Road	WOODSTOCK	- 37.52549	145.0827	Unusable	Poor	Unusable	Fair	Poor	Fair
Merriang Road	WOODSTOCK	- 37.54910	145.0306	Unusable	Unusable	Null	Unusable	Unusable	Unusable
Merriang Road	WOODSTOCK	- 37.54111	145.0298	Null	Unusable	Null	Poor	Unusable	Unusable
Merriang Road	WOODSTOCK	- 37.52413	145.0278	Poor	Poor	Fair	Unusable	Poor	Fair
Monakeeba Boulevard	WOODSTOCK	- 37.53720	145.0240	Null	Unusable	Null	Unusable	Unusable	Unusable
Monakeeba Boulevard	WOODSTOCK	- 37.53933	145.0240	Null	Poor	Null	Poor	Poor	Unusable
Monakeeba Boulevard	WOODSTOCK	- 37.54168	145.0234	Null	Poor	Null	Unusable	Poor	Unusable
Monakeeba Boulevard	WOODSTOCK	- 37.54635	145.0230	Unusable	Unusable	Null	Unusable	Unusable	Unusable
Monakeeba Boulevard	WOODSTOCK	- 37.54812	145.0225	Poor	Fair	Null	Poor	Unusable	Poor
Selkirk Road	WOODSTOCK	- 37.54124	145.0696	Unusable	Unusable	Null	Unusable	Null	Unusable
Selkirk Road	WOODSTOCK	- 37.53673	145.0680	Unusable	Unusable	Null	Poor	Null	Unusable
Selkirk Road	WOODSTOCK	- 37.53017	145.0679	Unusable	Unusable	Null	Unusable	Null	Unusable
Unnamed	WOODSTOCK	- 37.55359	145.0721	Null	Poor	Null	Poor	Poor	Unusable
Arthurs Creek Road	YAN YEAN	- 37.57271	145.1441	Poor	Unusable	Poor	Poor	Fair	Poor
Deep Creek Road	YAN YEAN	- 37.54081	145.1780	Null	Fair	Null	Poor	Unusable	Poor
Donnybrook Road	YAN YEAN	- 37.55530	145.0880	Unusable	Unusable	Null	Poor	Poor	Unusable
Grants Road	YAN YEAN	- 37.52711	145.0973	Poor	Poor	Fair	Poor	Poor	Poor
Plenty Road	YAN YEAN	- 37.55770	145.1097	Good	Good	Null	Good	Fair	Fair

Ridge Road	YAN YEAN	- 37.56887	145.1466	Null	Poor	Null	Good	Null	Poor
Ridge Road	YAN YEAN	- 37.56244	145.1547	Null	Poor	Null	Fair	Poor	Poor
Ridge Road	YAN YEAN	- 37.55427	145.1675	Fair	Poor	Null	Good	Fair	Fair
Ridge Road	YAN YEAN	- 37.54708	145.1692	Null	Fair	Null	Fair	Fair	Fair

Appendix 27 – Bus Stop Network Coverage

Stop ID	Stop Name	Route Number	Telstra 5G	Telstra 4G	Optus 5G	Optus 4G	TPG 5G	TPG 4G
1019	Davisson St/Rufus St (Epping)	556	Poor	Fair	Fair	Poor	Excellent	Fair
102	Lalor SC/David St (Lalor)	566	Excellent	Good	Excellent	Excellent	Excellent	Good
1020	Keith Ave/Greenbrook Dr (Epping)	556	Poor	Poor	Poor	Poor	Good	Poor
1021	McDonalds Rd/Greenbrook Dr (Epping)	556	Poor	Unusable	Poor	Poor	Good	Poor
1022	Greenbrook SC/McDonalds Rd (Epping)	901,556	Poor	Poor	Fair	Excellent	Good	Good
1023	Greenview Ct/McDonalds Rd (Epping)	901,556	Fair	Poor	Poor	Good	Good	Poor
1024	Merrill Dr/McDonalds Rd (Epping)	901,556	Fair	Good	Fair	Fair	Good	Poor
1025	Meadow Glen Dr/McDonalds Rd (Epping)	901	Fair	Good	Fair	Fair	Good	Fair
10259	High St/Memorial Ave (Epping)	357,556,577,356	Fair	Poor	Poor	Fair	Fair	Poor
1026	Bridle Ct/Meadow Glen Dr (Epping)	556	Fair	Fair	Unusable	Fair	Good	Poor
1027	Derby Dr/Meadow Glen Dr (Epping)	556	Good	Good	Poor	Fair	Good	Fair
1028	Glendale Ave/Derby Dr (Epping)	556	Good	Fair	Unusable	Fair	Good	Fair
1029	Winchester Ave/Derby Dr (Epping)	556	Fair	Fair	Poor	Poor	Good	Poor
1030	Northumberland Dr/Derby Dr (Epping)	556	Poor	Poor	Fair	Poor	Good	Poor
1031	Scarborough Rd/McDonalds Rd (Epping)	901,556	Poor	Poor	Poor	Fair	Good	Fair
1032	Church St/High St (Epping)	556	Fair	Poor	Poor	Poor	Good	Poor
10339	Emms St/Settlement Rd (Bundoora)	902	Good	Good	Poor	Poor	Excellent	Poor
1034	Wedge St/High St (Epping)	556	No Coverage	Excellent	Good	Good	Good	Good
10340	Green St/Settlement Rd (Thomastown)	902	Good	Excellent	Fair	Fair	Excellent	Excellent
10341	Norris Bank PS/Settlement Rd (Thomastown)	902	Good	Excellent	Fair	Fair	Fair	Fair
10343	Brand Dr/Settlement Rd (Thomastown)	902	Good	Good	Good	Good	Excellent	Excellent
10344	Wood St/Settlement Rd (Thomastown)	902	Good	Excellent	Good	Good	Excellent	Good
10345	Finton Gr/Keon Pde (Thomastown)	902	Fair	Good	Good	Fair	Excellent	Fair
10346	Keon Park Station/Keon Pde (Thomastown)	902	Excellent	Excellent	Excellent	Good	Excellent	Excellent

10347	High St/Mahoneys Rd (Thomastown)	902	Excellent	Excellent	Fair	Good	Excellent	Fair
10348	Edgars Rd/Mahoneys Rd (Thomastown)	902	No Coverage	Good	Good	Fair	Excellent	Poor
10349	Lipton Dr/Mahoneys Rd (Thomastown)	902	No Coverage	Excellent	Fair	Fair	Good	Poor
10350	Callander St/Mahoneys Rd (Thomastown)	902	No Coverage	Excellent	Good	Fair	Excellent	Fair
10351	Clay Ct/Mahoneys Rd (Thomastown)	902	Good	Excellent	Good	Good	Excellent	Good
10352	Lawson Cres/Mahoneys Rd (Thomastown)	902	Good	Excellent	Excellent	Excellent	Excellent	Excellent
10353	Lockton Ave/Mahoneys Rd (Thomastown)	902	No Coverage	Excellent	Fair	Good	Good	Fair
10354	Industrial Ave/Mahoneys Rd (Thomastown)	902	No Coverage	Excellent	Fair	Good	Excellent	Good
10355	Phillip St/Mahoneys Rd (Thomastown)	902	No Coverage	Excellent	Good	Excellent	Good	Fair
10595	Beech St/Alexander Ave (Thomastown)	559	Excellent	Excellent	Good	Good	Good	Fair
10596	Frederick St/Alexander Ave (Thomastown)	559	Excellent	Good	Fair	Poor	Good	Poor
10597	Acacia St/Alexander Ave (Thomastown)	559	Good	Fair	Fair	Poor	Good	Poor
10598	Nick Ascenzo Reserve/Alexander Ave (Thomastown)	559	Good	Good	Fair	Fair	Good	Poor
10599	Smith Ave/Darebin Dr (Thomastown)	559	Excellent	Good	Fair	Fair	Fair	Poor
10600	Chapman Ave/Darebin Dr (Thomastown)	559	No Coverage	Good	Fair	Good	Excellent	Fair
10601	Bates Ave/Darebin Dr (Thomastown)	559	No Coverage	Excellent	Fair	Fair	Excellent	Fair
10602	Valentine Ave/Darebin Dr (Thomastown)	559	No Coverage	Excellent	Poor	Fair	Fair	Poor
10603	McKimmies Rd/Darebin Dr (Thomastown)	559	Poor	Excellent	Fair	Fair	Fair	Poor
10604	Lalor Plaza/Darebin Dr (Lalor)	559	Good	Excellent	Fair	Fair	Fair	Fair
10605	Donald St/Darebin Dr (Lalor)	559	Fair	Good	Fair	Excellent	Fair	Good
10606	Hertford Pl/Darebin Dr (Lalor)	559	Fair	Good	Fair	Fair	Good	Fair
10607	Dalton Rd/Burton St (Lalor)	559	Fair	Poor	Poor	Fair	Fair	Poor
10608	49 Burton St (Lalor)	559	Unusable	Fair	Poor	Poor	Fair	Unusable
10609	Ruthven Cres/Burton St (Lalor)	559	Poor	Unusable	Fair	Fair	Fair	Poor
10610	Cherry Ct/Edmondson St (Lalor)	559	Poor	Unusable	Fair	Fair	Fair	Poor

10611	Edmondson St/Curtin Ave (Lalor)	559	Poor	Poor	Fair	Poor	Poor	Poor
10612	Newton Cres/Curtin Ave (Lalor)	559	Good	Fair	Fair	Poor	Fair	Fair
10617	Lalor SC/Station St (Lalor)	559	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
10618	Heath St/Station St (Thomastown)	559	Excellent	Excellent	Excellent	Good	Good	Good
10621	Heather Ave/Spring St (Thomastown)	557	Fair	Fair	Fair	Fair	Fair	Fair
10622	Johnson St/Spring St (Thomastown)	557	Good	Poor	Fair	Fair	Good	Fair
10623	McLeod St/Spring St (Thomastown)	557	Good	Excellent	Fair	Good	Good	Fair
10625	RGC Cook Reserve/Victoria Dr (Thomastown)	557	Fair	Poor	Poor	Fair	Good	Unusable
10628	Gillwell Rd/Barry Rd (Thomastown)	557	Good	Fair	Fair	Fair	Fair	Poor
10631	Franklin Rd/Edgars Rd (Lalor)	357	Poor	Fair	Poor	Fair	Fair	Good
10632	Robert St/Edgars Rd (Lalor)	357	Fair	Poor	Fair	Poor	Fair	Fair
10633	Dion Cl/Edgars Rd (Lalor)	357	Poor	Poor	Poor	Poor	Poor	Poor
10634	CityLife Church/Kingsway (Lalor)	557	Fair	Poor	Poor	Fair	Poor	Unusable
10635	Lyndon St/Kingsway Dr (Lalor)	557	Fair	Poor	Poor	Fair	Poor	Poor
10636	Linoak Ave/Kingsway Dr (Lalor)	557	Fair	Fair	Fair	Fair	Fair	Poor
10638	Mount View Rd/Main St (Thomastown)	357	Excellent	Fair	Fair	Fair	Fair	Poor
10639	Main Street Rec Reserve/Main St (Thomastown)	357	Poor	Poor	Poor	Poor	Fair	Fair
10640	Simpson St/Main St (Thomastown)	357	Poor	Poor	Poor	Poor	Good	Poor
1003	Keon Pde/Dalton Rd (Thomastown)	556	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
1004	Wood St/Dalton Rd (Thomastown)	556	Fair	Excellent	Excellent	Excellent	Excellent	Excellent
1005	Settlement Rd/Dalton Rd (Thomastown)	556	Good	Excellent	Excellent	Good	Excellent	Excellent
1006	Alison St/Dalton Rd (Thomastown)	556	Good	Good	Fair	Good	Fair	Fair
1007	Buckingham Ct/Dalton Rd (Thomastown)	556	Poor	Good	Poor	Fair	Fair	Unusable
1008	Wattle St/Dalton Rd (Thomastown)	556	Poor	Excellent	Fair	Fair	Good	Poor
1009	Maple St/Dalton Rd (Lalor)	556	Poor	Excellent	Poor	Fair	Fair	Poor
1010	Deakin Ave/Dalton Rd (Lalor)	556	Poor	Excellent	Fair	Fair	Fair	Poor
1011	Ruth St/Dalton Rd (Lalor)	556	Unusable	Fair	Poor	Fair	Fair	Poor
1012	Queen St/Dalton Rd (Lalor)	556	Fair	Fair	Poor	Fair	Fair	Poor
1013	Curtin Ave/Dalton Rd (Lalor)	556	Fair	Fair	Fair	Fair	Fair	Fair

1014	Childs Rd/Dalton Rd (Lalor)	556	Poor	Good	Poor	Fair	Good	Fair
1015	Holroyd Dr/Dalton Rd (Epping)	556	Poor	Poor	Poor	Excellent	Good	Good
1016	Grand Pde/Dalton Rd (Epping)	556	Poor	Poor	Excellent	Excellent	Excellent	Excellent
1017	Melbourne Polytechnic/Dalton Rd (Epping)	556	Poor	Poor	Good	Good	Excellent	Excellent
1018	Coulstock St/Davisson St (Epping)	357,556,577,901,356	Fair	Fair	Good	Good	Excellent	Good
10773	St Damians PS/Settlement Rd (Bundoora)	902	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
1081	McLaughlin Cres/Redleap Ave (Mill Park)	564	Fair	Good	Fair	Fair	Excellent	Good
10827	Edward St/Settlement Rd (Bundoora)	902	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
10828	Outlook Rise/Settlement Rd (Bundoora)	902	Good	Excellent	Poor	Poor	Excellent	Poor
10829	Latrobe Ave/Settlement Rd (Bundoora)	902	Good	Excellent	Fair	Fair	Fair	Fair
10830	Greenhills Rd/Settlement Rd (Bundoora)	902	Good	Excellent	Good	Good	Fair	Fair
10831	Norris Bank PS/Settlement Rd (Bundoora)	902	Good	Excellent	Excellent	Fair	Excellent	Good
10832	Apex Ct/Settlement Rd (Thomastown)	902	Good	Good	Fair	Excellent	Excellent	Excellent
10833	Brand Dr/Settlement Rd (Thomastown)	902	Good	Good	Excellent	Excellent	Excellent	Excellent
10834	Hanrahan St/Wood St (Thomastown)	902	Good	Excellent	Excellent	Excellent	Excellent	Excellent
1084	Moorhead Dr/Redleap Ave (Mill Park)	564	Fair	Good	Poor	Fair	Good	Fair
1085	Buckmaster Dr/Redleap Ave (Mill Park)	564	Good	Good	Poor	Fair	Good	Fair
1086	Mill Park Stables SC/Redleap Ave (Mill Park)	564	Good	Good	Fair	Fair	Excellent	Fair
1088	Childs Rd/Betula Ave (Mill Park)	564,382	Good	Fair	Good	Excellent	Excellent	Excellent
1204	Wood St/Dalton Rd (Thomastown)	556	Fair	Excellent	Excellent	Excellent	Excellent	Excellent
1205	Settlement Rd/Dalton Rd (Thomastown)	556	Excellent	Excellent	Excellent	Good	Excellent	Good
1206	Rochester Dr/Dalton Rd (Thomastown)	556	Good	Good	Fair	Good	Fair	Fair
1207	Buckingham Ct/Dalton Rd (Thomastown)	556	Poor	Good	Fair	Good	Fair	Fair
1208	Valentine Ave/Dalton Rd (Thomastown)	556	Poor	Excellent	Fair	Fair	Fair	Poor
1209	The Boulevard/Dalton Rd (Thomastown)	556	Poor	Excellent	Fair	Poor	Good	Poor
1210	Deakin Ave/Dalton Rd (Lalor)	556	Poor	Excellent	Fair	Fair	Fair	Poor
1211	Menzies Pde/Dalton Rd (Lalor)	556	Unusable	Fair	Poor	Good	Fair	Poor
1212	Michael St/Dalton Rd (Lalor)	556	Fair	Fair	Poor	Fair	Fair	Poor
1213	Darebin Dr/Dalton Rd (Lalor)	559,556	Fair	Fair	Fair	Fair	Fair	Poor

1214	Monash St/Dalton Rd (Lalor)	556	Poor	Fair	Poor	Fair	Good	Fair
1215	Childs Rd/Dalton Rd (Lalor)	556	Poor	Good	Poor	Fair	Good	Fair
1216	Holroyd Dr/Dalton Rd (Epping)	556	Poor	Poor	Poor	Excellent	Good	Good
1217	Grand Pde/Dalton Rd (Epping)	556	Poor	Poor	Excellent	Good	Excellent	Excellent
11716	Kemp Ave/Spring St (Thomastown)	554	Poor	Fair	Poor	Fair	Fair	Poor
11717	Neerim St/Spring St (Thomastown)	554	Poor	Fair	Fair	Fair	Fair	Poor
11718	Lantana Ave/Spring St (Thomastown)	554	Fair	Fair	Fair	Fair	Fair	Fair
11719	Harding St/Spring St (Thomastown)	554,357	Good	Poor	Fair	Fair	Good	Fair
11720	Clarke St/Spring St (Thomastown)	554,357	Good	Fair	Fair	Good	Good	Fair
11721	Salamander Ave/Victoria Dr (Thomastown)	554	Poor	Fair	Fair	Good	Good	Fair
11722	Victoria Park/Victoria Dr (Thomastown)	554	Poor	Fair	Poor	Poor	Fair	Fair
11723	The Close/Victoria Dr (Thomastown)	554	Fair	Good	Fair	Fair	Fair	Fair
11724	HR Uren Reserve/Victoria Dr (Thomastown)	554	Good	Good	Fair	Fair	Good	Fair
11725	Carrington Bvd/Victoria Dr (Thomastown)	554	Fair	Fair	Poor	Poor	Fair	Poor
11726	Bendigo Cres/Victoria Dr (Thomastown)	554	Fair	Fair	Fair	Fair	Fair	Fair
11727	Robinvale Ave/Victoria Dr (Thomastown)	554	Poor	Poor	Poor	Poor	Fair	Poor
11728	RGC Cook Reserve/Victoria Dr (Thomastown)	554	Fair	Fair	Fair	Fair	Good	Poor
11729	Gillwell Rd/Barry Rd (Thomastown)	554	Fair	Fair	Poor	Fair	Fair	Poor
11732	Franklin Rd/Edgars Rd (Lalor)	357	Poor	Fair	Poor	Fair	Fair	Good
11733	Pinetree Cres/Edgars Rd (Lalor)	357	Fair	Fair	Fair	Fair	Fair	Fair
11734	Kingsway Dr/Edgars Rd (Lalor)	357	Fair	Fair	Poor	Poor	Poor	Poor
11735	CityLife Church/Kingsway Dr (Lalor)	554	Fair	Poor	Poor	Fair	Poor	Unusable
11736	Lyndon St/Kingsway Dr (Lalor)	554	Poor	Poor	Poor	Fair	Poor	Poor
11737	Linoak Ave/Kingsway Dr (Lalor)	554	Fair	Fair	Fair	Fair	Fair	Poor
11738	Lalor Station/Kingsway Dr (Lalor)	554	Poor	Poor	Poor	Fair	Fair	Unusable
1218	Melbourne Polytechnic/Dalton Rd (Epping)	556	Poor	Fair	Excellent	Excellent	Excellent	Excellent
1219	Coulstock St/Davisson St (Epping)	357,556,577,901,356	No Coverage	Fair	Good	Good	Excellent	Good
1220	Davisson St/Rufus St (Epping)	556	Poor	Fair	Fair	Poor	Excellent	Fair

1221	Keith Ave/Greenbrook Dr (Epping)	556	Poor	Poor	Poor	Poor	Good	Poor
1222	Savannah Cres/Greenbrook Dr (Epping)	556	Poor	Unusable	Poor	Poor	Good	Poor
1223	Greenbrook SC/McDonalds Rd (Epping)	901,556	Poor	Poor	Fair	Excellent	Good	Good
1224	Greenview Ct/McDonalds Rd (Epping)	901,556	Fair	Poor	Poor	Fair	Good	Fair
1225	Merrill Dr/McDonalds Rd (Epping)	901,556	Fair	Good	Fair	Poor	Good	Poor
1226	Pindari Ave/McDonalds Rd (Epping)	901,556	Good	Poor	Poor	Poor	Good	Poor
1227	Halter Cres/Meadow Glen Dr (Epping)	556	Fair	Fair	Unusable	Fair	Good	Poor
1228	St Leger Pl/Meadow Glen Dr (Epping)	556	Good	Good	Poor	Fair	Good	Fair
1229	Glendale Ave/Derby Dr (Epping)	556	Good	Fair	Unusable	Fair	Good	Fair
1230	Pentland Dr/Derby Dr (Epping)	556	Fair	Fair	Poor	Poor	Good	Poor
1231	Aldergate Ct/Derby Dr (Epping)	556	Poor	Poor	Fair	Poor	Good	Fair
1233	Wedge St/High St (Epping)	556	No Coverage	Good	Fair	Good	Good	Excellent
1234	Houston St/High St (Epping)	556	Fair	Fair	Fair	Poor	Fair	Fair
1235	High St/Memorial Ave (Epping)	357,556,577,356	Fair	Fair	Poor	Poor	Fair	Fair
1236	Scarborough Rd/McDonalds Rd (Epping)	901,556	Poor	Fair	Poor	Excellent	Good	Good
1237	McDonalds Rd/Derby Dr (Epping)	556	Poor	Poor	Poor	Fair	Good	Good
12762	Mosaic Dr/Gillwell Rd (Lalor)	554	Fair	Good	Good	Good	Excellent	Fair
13776	Hanrahan St/Wood St (Thomastown)	902	Good	Excellent	Excellent	Excellent	Excellent	Excellent
13777	Dalton Rd/Keon Pde (Thomastown)	902	Good	Excellent	Good	Good	Excellent	Good
13778	Greenhills Rd/Settlement Rd (Bundoora)	902	Good	Excellent	Good	Good	Fair	Fair
13779	Norris Bank Reserve/Settlement Rd (Bundoora)	902	Good	Excellent	Fair	Fair	Fair	Fair
14412	Jardier Tce/The Lakes Bvd (South Morang)	387,386	Good	Good	Good	Fair	No Coverage	Fair
139	Gratwick St/Station St (Lalor)	566,559	Fair	Good	Good	Good	Fair	Fair
14002	Diosma Park/Diosma Way (Mill Park)	383	Good	Fair	Poor	Fair	Poor	Fair
13992	Jardier Tce/The Lakes Bvd (South Morang)	387,386	Good	Good	Good	Fair	No Coverage	Fair
13993	Capital Way/The Lakes Bvd (South Morang)	387,386	Good	Good	Good	Fair	No Coverage	Fair

13994	The Promenade/The Lakes Bvd (South Morang)	387,386	Good	Fair	Good	Excellent	No Coverage	Excellent
13997	Hurlstone Cres/Centenary Dr (Mill Park)	383	Fair	Excellent	Good	Good	Good	Good
13998	Plenty Rd/Centenary Dr (Mill Park)	383	Excellent	Excellent	Excellent	Fair	Excellent	Excellent
13999	Plenty Rd/Development Bvd (Mill Park)	383	Fair	Excellent	Fair	Excellent	Fair	Fair
14000	Shamrock Dr/Development Bvd (Mill Park)	383	Fair	Good	Fair	Good	Good	Fair
14001	Wagstaff Dr/Development Bvd (Mill Park)	383	Excellent	Excellent	Excellent	Excellent	Fair	Excellent
14003	Mirbelia Cres/Telopea Cres (Mill Park)	383	Good	Fair	Poor	Fair	Poor	Fair
14004	Veronica Cres/Blossom Park Dr (Mill Park)	383	Good	Poor	Unusable	Fair	Poor	Poor
14006	Betula Park/Betula Ave (Mill Park)	382	Good	Fair	Excellent	Excellent	Excellent	Excellent
14007	Valadero Ct/Betula Ave (Mill Park)	382	No Coverage	Fair	Poor	Fair	Good	Good
14008	McKimmies Rd/Botanica Bvd (Bundoora)	564	No Coverage	No Coverage	No Coverage	No Coverage	No Coverage	No Coverage
14009	Zelkova Tce/Botanica Bvd (Bundoora)	564	No Coverage	No Coverage	No Coverage	No Coverage	No Coverage	No Coverage
14010	Sharman Ct/Betula Ave (Bundoora)	564	Fair	Excellent	Good	Fair	Fair	Poor
14011	Tasman Dr/Betula Ave (Bundoora)	564	Fair	Excellent	Good	Fair	Fair	Fair
14012	Hibiscus Ave/Betula Ave (Bundoora)	564	No Coverage	Good	Unusable	Fair	Fair	Poor
150	Partridge St/Station St (Lalor)	566	Poor	Poor	Poor	Poor	Fair	Poor
51043	Sumner Dr/Masons Rd (Mernda)	388	Poor	Fair	Poor	Poor	Fair	Poor
151	Chifley St/Station St (Lalor)	566	Fair	Poor	Unusable	Poor	Fair	Poor
152	Station St/Childs Rd (Lalor)	566	Poor	Unusable	Poor	Fair	Fair	Fair
153	Supply Dr/Childs Rd (Lalor)	566	Fair	Unusable	Fair	Fair	Fair	Fair
149	Lalor Station/Station St (Lalor)	566	Good	Good	Fair	Fair	Good	Fair
154	Midway Cres/Childs Rd (Lalor)	566	Fair	Poor	Poor	Good	Fair	Fair
1568	Narina Way/Hendersons Rd (Epping)	569	Poor	Poor	Good	Good	Excellent	Fair
1569	Hendersons Park/Hendersons Rd (Epping)	569	Poor	Unusable	Poor	Fair	Good	Fair
157	Bowman Dr/Childs Rd (Mill Park)	569,566	Poor	Fair	Poor	Poor	Fair	Fair
1570	Dorrington Ct/Woolnough Dr (Mill Park)	569	Good	Poor	Poor	Good	Fair	Poor

1571	Ester Dr/Woolnough Dr (Mill Park)	569	Fair	Good	Poor	Fair	Fair	Fair
1572	99 Woolnough Dr (Mill Park)	569	Good	Excellent	Fair	Fair	Fair	Good
1573	Bowman Dr/Woolnough Dr (Mill Park)	569	Poor	Good	Unusable	Poor	Fair	Fair
1574	Bowman Dr/Childs Rd (Mill Park)	569,566	Poor	Fair	Poor	Poor	Fair	Fair
1577	Childs Rd/Prince Of Wales Ave (Mill Park)	569	Fair	Good	Unusable	Good	Fair	Fair
1578	Golf Links Dr/Prince Of Wales Ave (Mill Park)	569	Good	Good	Unusable	Good	Fair	Fair
1579	Eynon Ct/Prince Of Wales Ave (Mill Park)	569	Good	Good	Poor	Good	Fair	Fair
158	Prince Of Wales Ave/Childs Rd (Mill Park)	569,566	Fair	Fair	Unusable	Fair	Fair	Poor
1580	Heritage Dr/Prince Of Wales Ave (Mill Park)	569	Fair	Good	Poor	Good	Fair	Fair
1581	Corbin Pl/Prince Of Wales Ave (Mill Park)	569	Good	Excellent	Fair	Good	Fair	Fair
1582	Prince Of Wales Ave/Pindari Ave (Mill Park)	569	Excellent	Excellent	Poor	Good	Fair	Good
1583	Bronsdon Ct/Romano Ave (Mill Park)	569	Excellent	Excellent	Fair	Good	Fair	Good
155	Mindoro Cres/Childs Rd (Lalor)	566	Poor	Fair	Poor	Good	Good	Fair
15557	Capital Way/The Lakes Bvd (South Morang)	387,386	Good	Good	Good	Fair	No Coverage	Fair
15558	Trinity Way/The Lakes Bvd (South Morang)	387,386	Good	Fair	Good	Excellent	No Coverage	Excellent
15561	Hurlstone Cres/Centenary Dr (Mill Park)	383	Fair	Excellent	Fair	Good	Good	Good
15562	Miles Cl/Centenary Dr (Mill Park)	383	Good	Excellent	Excellent	Fair	Excellent	Excellent
15563	Plenty Rd/Development Bvd (Mill Park)	383	Fair	Excellent	Fair	Excellent	Fair	Fair
15564	University Dr/Development Bvd (Mill Park)	383	Fair	Good	Fair	Good	Fair	Fair
15565	Westwood Dr/Development Bvd (Mill Park)	383	Excellent	Excellent	Fair	Excellent	Excellent	Excellent
15566	Diosma Park/Diosma Way (Mill Park)	383	Good	Fair	Poor	Fair	Poor	Fair
15567	Plenty Parklands PS/Blossom Park Dr (Mill Park)	383	Good	Fair	Unusable	Unusable	Fair	Poor
15568	Veronica Cres/Blossom Park Dr (Mill Park)	383	Good	Fair	Unusable	Fair	Poor	Poor
15570	Betula Park/Betula Ave (Mill Park)	382	Good	Poor	Excellent	Excellent	Excellent	Excellent
15571	Mimosa Rd/Betula Ave (Mill Park)	382	No Coverage	Fair	Poor	Fair	Good	Good
15586	Romano Ave/Manning Clark Rd (Mill Park)	569	Excellent	Excellent	Fair	Poor	Good	Fair
156	Lalor North Secondary College/Childs Rd (Lalor)	566	Poor	Poor	Poor	Fair	Good	Fair

15601	Betula Ave/McKimmies Rd (Bundoora)	564,382	No Coverage	Good	Poor	Fair	Good	Fair
1565	High St/Cooper St (Epping)	358,569,577,901,357	Fair	Good	Excellent	Excellent	Good	Good
1585	Roe Way/Manning Clark Rd (Mill Park)	569	Fair	Excellent	Fair	Poor	Good	Fair
1586	Border Dr/Manning Clark Rd (Mill Park)	569	Fair	Unusable	Poor	Fair	Good	Good
1587	Farnham Cres/The Fred Hollows Way (Mill Park)	569	Excellent	Excellent	Good	Fair	Good	Fair
1588	Moorhead Dr/Morang Dr (Mill Park)	382	Excellent	Excellent	Fair	Fair	Good	Fair
1589	Mill Park Leisure Centre/Morang Dr (Mill Park)	382	Excellent	Excellent	Fair	Poor	Excellent	Fair
159	Crampton Cres/Childs Rd (Mill Park)	566	Good	Fair	Unusable	Fair	Good	Fair
1591	Pindari Ave/Morang Dr (Mill Park)	382	Excellent	Excellent	Poor	Poor	Good	Excellent
1593	Marshall Dr/Childs Rd (Mill Park)	566,382	Good	Excellent	Poor	Fair	Good	Good
165	Dr Harry Jenkins Reserve/Childs Rd (Mill Park)	566	Fair	Unusable	Good	Excellent	Excellent	Excellent
166	Plenty Rd/Childs Rd (Mill Park)	566	Good	Fair	Good	Excellent	Excellent	Good
16653	Civic Dr/McDonalds Rd (Epping)	901	Excellent	Fair	Poor	Fair	Good	Good
16654	Gibbons Dr/McDonalds Rd (Epping)	901	Fair	Poor	Fair	Fair	Good	Good
16655	Halter Cres/McDonalds Rd (Epping)	901	Fair	Poor	Poor	Poor	Good	Poor
16656	McDonalds Rd/Davisson St (Epping)	357,577,901,356	Fair	Poor	Poor	Poor	Fair	Fair
16657	Yale Dr/Cooper St (Epping)	901,357	Poor	Fair	Poor	Fair	Good	Fair
1601	Sycamore St/Roycroft Ave (Mill Park)	564	Fair	Good	Fair	Good	Fair	Fair
1602	Nandina Ct/Roycroft Ave (Mill Park)	564	Good	Good	Fair	Good	Fair	Fair
1603	Holly Cl/Roycroft Ave (Mill Park)	564	Fair	Good	Poor	Fair	Fair	Fair
1604	Conifer Cl/Garden Grove Dr (Mill Park)	564	Excellent	Good	Fair	Good	Fair	Excellent
1605	McKimmies Rd/Garden Grove Dr (Mill Park)	564	No Coverage	No Coverage	No Coverage	No Coverage	No Coverage	No Coverage
47952	Dilop Dr/Miller St (Epping)	358	Fair	Poor	Excellent	Excellent	Good	Excellent
1607	RMIT Bundoora Campus West/McKimmies Rd (Mill Park)	570,382	No Coverage	Good	Poor	Fair	Good	Fair
1608	Plenty Rd/McKimmies Rd (Mill Park)	570,382	No Coverage	Excellent	Unusable	Good	Fair	Fair
161	Marshall Dr/Childs Rd (Mill Park)	566,382	Good	Good	Poor	Good	Good	Good
162	St Francis Of Assisi PS/Childs Rd (Mill Park)	566,382	Good	Fair	Excellent	Excellent	Excellent	Excellent

167	Mayfield Dr/Plenty Rd (Mill Park)	386,387,566,383	No Coverage	Good	Fair	Fair	Fair	Fair
168	RMIT Bundoora Campus East/Plenty Rd (Bundoora)	386,387,566,383	No Coverage	Excellent	Poor	Fair	Fair	Fair
1597	Madigan Cres/Roycroft Ave (Mill Park)	564	Good	Fair	Excellent	Excellent	Excellent	Excellent
1598	Landy Cl/Roycroft Ave (Mill Park)	564	Fair	Good	Fair	Good	Fair	Excellent
1599	Cuthbert Dr/Roycroft Ave (Mill Park)	564	Fair	Good	Fair	Good	Fair	Excellent
160	Morang Dr/Childs Rd (Mill Park)	566	Excellent	Good	Poor	Excellent	Good	Good
1600	Konrads Cres/Roycroft Ave (Mill Park)	564	Good	Excellent	Good	Good	Fair	Good
1584	Romano Ave/Manning Clark Rd (Mill Park)	569	Excellent	Excellent	Fair	Poor	Good	Fair
164	Mill Park Stables SC/Childs Rd (Mill Park)	564,566,383	Good	Poor	Excellent	Excellent	Excellent	Excellent
171	Parade College/Plenty Rd (Bundoora)	566,382	No Coverage	Good	Unusable	Fair	Fair	Poor
172	Greenhills Rd/Plenty Rd (Bundoora)	566,382	Good	Excellent	Good	Good	Excellent	Good
17272	Civic Dr/McDonalds Rd (Epping)	901	Excellent	Poor	Fair	Fair	Good	Good
17273	Gibbons Dr/McDonalds Rd (Epping)	901	Fair	Poor	Fair	Fair	Good	Good
17274	Halter Cres/McDonalds Rd (Epping)	901	Fair	Fair	Poor	Poor	Good	Fair
17275	McDonalds Rd/Davisson St (Epping)	357,577,901,356	Fair	Poor	Poor	Poor	Fair	Fair
17298	Bridge Inn Rd/Yan Yean Rd (Doreen)	381	Poor	Fair	Poor	Poor	Fair	Fair
17299	Daisy Hill Rd/Yan Yean Rd (Doreen)	381	Poor	Good	Good	Fair	Excellent	Good
173	Bundoora Square Shopping Centre/Plenty Rd (Bundoora)	566,382	Good	Excellent	Good	Good	Excellent	Good
169	RMIT Bundoora Campus West/Plenty Rd (Bundoora)	383,386,387,564,566,000	No Coverage	Good	Poor	Fair	Fair	Fair
170	Metropolitan Ring Rd/Plenty Rd (Bundoora)	566,382	No Coverage	Good	Unusable	Fair	Fair	Poor
163	Mill Park Stables SC/Childs Rd (Mill Park)	566,382	Good	Fair	Excellent	Excellent	Excellent	Excellent
20641	Francesca Dr/Plenty Rd (Mernda)	387,382	Fair	Good	Poor	Poor	Fair	Fair
2066	Roycroft Ave/Betula Ave (Mill Park)	564,382	Good	Fair	Good	Excellent	Excellent	Excellent
20662	Millennium Park Dr/Plenty Rd (Whittlesea)	385,382	Excellent	Excellent	No Coverage	Poor	Good	Poor
20664	Bethany Ct/Plenty Rd (South Morang)	382	Fair	Poor	Poor	Fair	Fair	Fair

20665	Gingles Rd/Humevale Rd (Humevale)	384	Unusable	Unusable	No Coverage	Poor	Poor	Poor
2068	Mill Park Stables SC/Redleap Ave (Mill Park)	564	Good	Good	Fair	Fair	Excellent	Fair
2069	Blackman Ave/Redleap Ave (Mill Park)	564	Good	Good	Poor	Fair	Good	Fair
2070	Moorhead Dr/Redleap Ave (Mill Park)	564	Fair	Good	Poor	Fair	Good	Fair
2071	Hurlstone Cres/Redleap Ave (Mill Park)	564	Fair	Good	Fair	Fair	Excellent	Fair
19233	Thomastown Station/High St (Thomastown)	554	Excellent	Excellent	Good	Fair	Fair	Fair
19234	Thomastown Station/High St (Thomastown)	554	Excellent	Excellent	Good	Fair	Fair	Fair
19235	Thomastown Station/High St (Thomastown)	555	Excellent	Excellent	Good	Fair	Fair	Fair
19236	Thomastown Station/High St (Thomastown)	557	Excellent	Excellent	Good	Fair	Fair	Fair
19237	Thomastown Station/High St (Thomastown)	555	Excellent	Excellent	Good	Fair	Fair	Fair
19239	Thomastown Station/Station St (Thomastown)	559	Excellent	Excellent	Good	Good	Good	Fair
19240	Epping Plaza SC/Cooper St (Epping)	569	No Coverage	Good	Excellent	Excellent	Excellent	Excellent
19242	Epping Plaza SC/Cooper St (Epping)	358	No Coverage	Good	Good	Excellent	Excellent	Excellent
19243	Epping Plaza SC/Cooper St (Epping)	555	No Coverage	Good	Excellent	Excellent	Excellent	Excellent
2072	Perrott Ct/Redleap Ave (Mill Park)	564	Fair	Good	Unusable	Poor	Fair	Fair
2073	Centenary Dr/Redleap Ave (Mill Park)	564	Fair	Excellent	Fair	Fair	Fair	Fair
2074	Pulford Cres/Centenary Dr (Mill Park)	564,383	Good	Good	Fair	Fair	Good	Fair
2075	Morang Dr/Centenary Dr (Mill Park)	564,383	Good	Excellent	Fair	Fair	Good	Fair
2076	Pollock Dr/Morang Dr (Mill Park)	383,564,569,382	Excellent	Poor	Good	Good	Fair	Good
2077	Civic Dr/Morang Dr (Mill Park)	383,564,569,382	Excellent	Fair	Good	Good	Fair	Fair
2080	Danaher Dr/McDonalds Rd (South Morang)	901,382	Good	Excellent	Excellent	Excellent	Excellent	Excellent
2081	Plenty Rd/McDonalds Rd (South Morang)	901,382	Good	Poor	Good	Good	Fair	Fair
2082	Briar Ct/Gorge Rd (South Morang)	901	Fair	Good	Fair	Good	Fair	Fair
21410	Japonica St/Betula Ave (Bundoora)	570	No Coverage	Good	Unusable	Fair	Fair	Poor
21411	Hibiscus Ave/Betula Ave (Bundoora)	570	No Coverage	Good	Unusable	Fair	Fair	Poor
21412	Tasman Dr/Betula Ave (Bundoora)	570	Fair	Excellent	Good	Fair	Fair	Fair

21413	Botanica Bvd/Betula Ave (Bundoora)	570	Fair	Excellent	Good	Fair	Fair	Poor
21414	Pride Ave/Botanica Bvd (Bundoora)	570	No Coverage	No Coverage	No Coverage	No Coverage	No Coverage	No Coverage
21415	McKimmies Rd/Botanica Bvd (Bundoora)	570	No Coverage	No Coverage	No Coverage	No Coverage	No Coverage	No Coverage
2115	Memorial Ave/High St (Epping)	357,577,356	Fair	Fair	Poor	Poor	Good	Poor
2116	Young St/High St (Epping)	357,577,356	Fair	Fair	Poor	Fair	Fair	Poor
2117	Epping Recreation Reserve/High St (Epping)	357,356	Fair	Fair	Poor	Fair	Fair	Poor
2119	Brush Rd/Findon Rd (Epping)	577	Fair	Good	Poor	Good	Fair	Fair
2120	Maserati Dr/Findon Rd (Epping)	577	Fair	Poor	Poor	Poor	Fair	Fair
2121	Healey Dr/Findon Rd (Epping)	577	Poor	Poor	Poor	Poor	No Coverage	Fair
2122	Devora Rd/Findon Rd (Epping)	577	Poor	Fair	Poor	Poor	No Coverage	Poor
2123	Longwood Park/Findon Rd (Epping)	577	Good	Poor	Good	Excellent	No Coverage	Good
2124	Pommel Cres/Findon Rd (Epping)	577	Fair	Poor	Good	Good	Good	Excellent
22265	Gateway Bvd/Cooper St (Epping)	901	Fair	Good	Poor	Fair	Good	Fair
22266	Gateway Bvd/Cooper St (Epping)	901	Poor	Fair	Poor	Fair	Good	Fair
22316	Lalor Plaza/McKimmies Rd (Lalor)	570	Poor	Excellent	Fair	Fair	Fair	Poor
22407	Lalor Gardens PS/Kingsway Dr (Lalor)	557	Poor	Fair	Unusable	Fair	Fair	Poor
21849	Mosaic Dr/Gillwell Rd (Lalor)	557	Fair	Good	Good	Good	Excellent	Fair
21852	Caringford Park/Kingsway Dr (Lalor)	554	Poor	Good	Poor	Poor	Good	Poor
21854	Suncroft Dr/Kingsway Dr (Lalor)	557	Poor	Good	Poor	Poor	Good	Poor
21922	Lalor Gardens PS/Kingsway Dr (Lalor)	554	Poor	Fair	Unusable	Poor	Fair	Poor
21941	Cooper St/Edgars Rd (Epping)	357	Poor	Fair	Fair	Poor	Fair	Fair
21943	Deveny Rd/Edgars Rd (Epping)	357	Poor	Fair	Good	Fair	Excellent	Good
21944	Gilwell Rd/Edgars Rd (Epping)	357	Fair	Fair	Poor	Poor	Fair	Poor
21945	Elizabeth Dr/Edgars Rd (Lalor)	357	Poor	Fair	Poor	Poor	Fair	Poor
21946	Elizabeth Dr/Edgars Rd (Lalor)	357	Poor	Fair	Unusable	Unusable	Fair	Poor
21947	Simpson St/Main St (Thomastown)	357	Poor	Poor	Poor	Poor	Good	Poor

21948	Main Street Rec Reserve/Main St (Thomastown)	357	Fair	Poor	Poor	Poor	Fair	Fair
21949	Epping Aged Care/Epping Rd (Epping)	357,356	Fair	Fair	Poor	Fair	Good	Poor
21950	Epping Aged Care/Epping Rd (Epping)	357,356	Fair	Fair	Poor	Fair	Good	Poor
21951	Hayston Park/Hayston Bvd (Epping)	356	Good	Good	No Coverage	Fair	No Coverage	Fair
22484	Donnybrook Railway Station/Springs Rd (Donnybrook)	511	Poor	Poor	Unusable	Fair	Poor	Unusable
22532	Old Plenty Rd/Plenty Rd (South Morang)	382	Fair	Unusable	Poor	Fair	Fair	Poor
22533	Whittlesea Showgrounds/Yea Rd (Whittlesea)	384	Fair	Fair	No Coverage	Good	Good	Good
22074	Main St/Edgars Rd (Thomastown)	357	Poor	Poor	Fair	Fair	Fair	Poor
22075	Winamurra Cres/Edgars Rd (Thomastown)	357	Fair	Poor	Poor	Poor	Good	Fair
22076	Barry Rd/Edgars Rd (Thomastown)	357	Poor	Unusable	Poor	Poor	Poor	Fair
22077	Brookland Gr/Edgars Rd (Thomastown)	357	Poor	Fair	Unusable	Poor	Fair	Fair
22078	Melaleuca Dr/Edgars Rd (Thomastown)	357	Poor	Fair	Poor	Poor	Good	Fair
22083	Thomastown Station/High St (Thomastown)	357	Excellent	Excellent	Good	Fair	Fair	Fair
2319	Konrads Cres/Roycroft Ave (Mill Park)	564	Fair	Excellent	Good	Excellent	Fair	Good
2320	Sycamore St/Roycroft Ave (Mill Park)	564	Fair	Good	Fair	Excellent	Fair	Fair
2321	Jasmine Dr/Roycroft Ave (Mill Park)	564	Good	Good	Fair	Good	Fair	Fair
2322	Alder Ct/Roycroft Ave (Mill Park)	564	Fair	Good	Poor	Fair	Fair	Fair
2323	Conifer Cl/Garden Grove Dr (Mill Park)	564	Excellent	Good	Fair	Good	Fair	Excellent
2324	McKimmies Rd/Garden Grove Dr (Mill Park)	564	No Coverage	No Coverage	No Coverage	No Coverage	No Coverage	No Coverage
2325	Betula Ave/McKimmies Rd (Bundoora)	564	No Coverage	Good	Poor	Fair	Good	Fair
2326	RMIT Bundoora Campus West/McKimmies Rd (Bundoora)	564,382	No Coverage	Good	Poor	Fair	Good	Fair
2327	Plenty Rd/McKimmies Rd (Bundoora)	564,382	No Coverage	Excellent	Poor	Good	Fair	Fair
23476	Yea Rd/Whittlesea-Kinglake Rd (Kinglake West)	384	No Coverage	Excellent	No Coverage	Fair	No Coverage	#N/A
23478	Coombs Rd/Yea Rd (Kinglake West)	384	No Coverage	Unusable	No Coverage	Poor	No Coverage	#N/A
23479	Coombs Rd/Yea Rd (Kinglake West)	384	No Coverage	Unusable	No Coverage	Poor	No Coverage	#N/A

23480	Hawkes Rd/Yea Rd (Humevale)	384	Unusable	Poor	No Coverage	Unusable	Unusable	Unusable
23481	Hawkes Rd/Yea Rd (Humevale)	384	Unusable	Poor	No Coverage	Unusable	Unusable	Unusable
23482	870 Yea Rd (Humevale)	384	Unusable	Poor	No Coverage	Fair	Unusable	Poor
23483	870 Yea Rd (Humevale)	384	Unusable	Poor	No Coverage	Unusable	Unusable	Poor
23484	655 Yea Rd (Humevale)	384	Poor	Fair	No Coverage	Good	Poor	Poor
23485	640 Yea Rd (Humevale)	384	Poor	Fair	No Coverage	Fair	Poor	Poor
22680	Dysons Bus Depot/121 McKimmies Rd (Mill Park)	570	Good	Excellent	Fair	Good	Fair	Fair
22681	Dysons Bus Depot/121 McKimmies Rd (Mill Park)	570	Good	Excellent	Fair	Good	Fair	Fair
22717	Glendale Park/Findon Rd (Epping)	577	Good	Fair	Good	Good	Good	Good
22718	Findon Rd (Epping)	577	Good	Fair	Poor	Poor	Good	Poor
22728	Barry Rd/Victoria Dr (Thomastown)	557	Fair	Good	Fair	Fair	Good	Fair
22729	Bendigo Cres/Victoria Dr (Thomastown)	557	Fair	Fair	Fair	Fair	Fair	Fair
22749	Main St/Edgars Rd (Thomastown)	357	Fair	Fair	Good	Fair	Good	Poor
2288	Narina Way/Hendersons Rd (Epping)	569	Poor	Poor	Good	Excellent	Excellent	Fair
2289	Hendersons Park/29 Hendersons Rd (Epping)	569	Unusable	Unusable	Poor	Fair	Good	Fair
2290	Dorrington Ct/Woolnough Dr (Mill Park)	569	Good	Poor	Poor	Good	Fair	Poor
2291	Ester Dr/Woolnough Dr (Mill Park)	569	Fair	Poor	Poor	Good	Fair	Fair
23528	Rothacker Rise/Flaxen Hills Rd (Doreen)	381	Poor	Poor	Fair	Poor	Good	Fair
23529	Brookwood Ave/Flaxen Hills Rd (Doreen)	381	Poor	Poor	Fair	Poor	Good	Fair
23538	Tarawera Rd/Brookwood Ave (Doreen)	381	Unusable	Fair	Fair	Poor	Fair	Fair
23541	Yan Yean Rd/Orchard Rd (Doreen)	381	Poor	Fair	Poor	Fair	Good	Poor
23542	Walling Way/Serle St (Doreen)	381	Poor	Unusable	Excellent	Excellent	Good	Excellent
23543	Montsalvat St/Serle St (Doreen)	381	Poor	Unusable	Good	Good	Excellent	Good
23544	Yan Yean Rd/Jorgensen Ave (Doreen)	385,381	Fair	Poor	Excellent	Fair	Excellent	Good
23553	Yan Yean Rd/Jorgensen Ave (Doreen)	385,381	Poor	Poor	Poor	Fair	Excellent	Good
23554	Serle St/Montsalvat St (Doreen)	385,381	Poor	Unusable	Good	Good	Excellent	Good

23555	Ashgate Dr/Orchard Rd (Doreen)	381	Poor	Poor	Good	Good	Good	Excellent
23558	Bursaria Way/Brookwood Ave (Doreen)	381	Unusable	Good	Fair	Poor	Fair	Fair
23563	Brookwood Ave/Flaxen Hills Rd (Doreen)	381	Poor	Poor	Fair	Poor	Good	Fair
23564	Yan Yean Rd/Orchard Rd (Doreen)	381	Poor	Poor	Fair	Fair	Good	Fair
23565	Laurimar Hill Dr/Flaxen Hills Rd (Doreen)	381	Poor	Poor	Fair	Poor	Good	Fair
22599	Yale Dr/Cooper St (Epping)	901,357	Poor	Fair	Poor	Fair	Good	Fair
22627	Plenty Rd/Betula Ave (Bundoora)	564	No Coverage	Good	Unusable	Fair	Fair	Poor
22648	Dennis St/Darebin Dr (Lalor)	559	Good	Good	Fair	Excellent	Fair	Good
2292	82 Woolnough Dr (Mill Park)	569	Good	Excellent	Fair	Fair	Fair	Good
2293	Capes Ct/Woolnough Dr (Mill Park)	569	Poor	Good	Unusable	Good	Fair	Fair
2296	Childs Rd/Prince Of Wales Ave (Mill Park)	569	Good	Good	Unusable	Good	Fair	Fair
2297	Golf Links Dr/Prince Of Wales Ave (Mill Park)	569	Good	Good	Unusable	Good	Fair	Fair
2298	Pickworth Pl/Prince Of Wales Ave (Mill Park)	569	Good	Excellent	Poor	Good	Fair	Fair
2299	Hobson Cres/Prince Of Wales Ave (Mill Park)	569	Fair	Good	Poor	Good	Fair	Fair
2300	Bendale Ct/Prince Of Wales Ave (Mill Park)	569	Good	Excellent	Poor	Good	Fair	Fair
2301	Prince Of Wales Ave/Pindari Ave (Mill Park)	569	Good	Excellent	Poor	Good	Fair	Fair
2302	Kenthurst Ct/Romano Ave (Mill Park)	569	Excellent	Excellent	Fair	Good	Fair	Good
2304	Roe Way/Manning Clark Rd (Mill Park)	569	Excellent	Excellent	Fair	Poor	Good	Fair
2305	Farnham Cres/Manning Clark Rd (Mill Park)	569	Fair	Unusable	Poor	Fair	Good	Good
2306	Farnham Cres/The Fred Hollows Way (Mill Park)	569	Excellent	Excellent	Good	Fair	Good	Fair
2307	Centenary Dr/Morang Dr (Mill Park)	382	Excellent	Excellent	Good	Fair	Good	Fair
2308	Mill Park Leisure Centre/Morang Dr (Mill Park)	382	Good	Excellent	Good	Fair	Good	Good
2311	Mill Park Baptist Church/Morang Dr (Mill Park)	382	Excellent	Excellent	Poor	Excellent	Good	Excellent
2316	Madigan Cres/Roycroft Ave (Mill Park)	564	Good	Fair	Excellent	Excellent	Excellent	Excellent
2317	Wenden Rd/Roycroft Ave (Mill Park)	564	Fair	Good	Fair	Good	Fair	Excellent
2318	Cuthbert Dr/Roycroft Ave (Mill Park)	564	Fair	Good	Fair	Good	Fair	Excellent
276	Brush Rd/Findon Rd (Epping)	577	Fair	Good	Poor	Good	Fair	Fair
27680	Eaststone Ave/Edgars Rd (Wollert)	357	Excellent	Good	Fair	Fair	Fair	Fair

27681	Steen Ave/Edgars Rd (Wollert)	357	Good	Good	Fair	Excellent	Poor	Good
27682	Steen Ave/Edgars Rd (Wollert)	357	Excellent	Excellent	Fair	Good	Poor	Fair
27683	Edgars Creek Secondary College/Edgars Rd (Wollert)	357	Fair	Excellent	Fair	Good	Poor	Fair
27684	Edgars Creek Secondary College/Edgars Rd (Wollert)	357	Fair	Excellent	Fair	Fair	Poor	Fair
278	Epping Recreation Reserve/High St (Epping)	357,577,356	Fair	Fair	Poor	Fair	Fair	Poor
279	Young St/High St (Epping)	357,577,356	Fair	Fair	Poor	Fair	Fair	Poor
27914	Eucalyptus Pde/Olivine Bvd (Donnybrook)	511	Unusable	Poor	Unusable	Unusable	Unusable	Poor
2667	Chowne St/Derrick St (Lalor)	566	Good	Excellent	Excellent	Excellent	Excellent	Excellent
2668	Gratwick St/Station St (Lalor)	566	Fair	Good	Good	Good	Fair	Fair
2670	Partridge St/Station St (Lalor)	566	Poor	Poor	Poor	Poor	Fair	Poor
2671	Chifley St/Station St (Lalor)	566	Fair	Poor	Unusable	Poor	Fair	Poor
2672	Station St/Childs Rd (Epping)	566	Poor	Unusable	Poor	Fair	Fair	Fair
2673	Supply Dr/Childs Rd (Epping)	566	Fair	Poor	Fair	Fair	Fair	Fair
2674	Midway Cres/Childs Rd (Epping)	566	Fair	Poor	Poor	Good	Good	Poor
2675	Mindoro Cres/Childs Rd (Epping)	566	Poor	Fair	Poor	Good	Good	Fair
2676	Lalor North Secondary College/Childs Rd (Epping)	566	Poor	Poor	Poor	Fair	Good	Fair
2678	Prince Of Wales Ave/Childs Rd (Mill Park)	569,566	Fair	Good	Unusable	Fair	Fair	Poor
2679	Crampton Cres/Childs Rd (Mill Park)	566	Good	Excellent	Unusable	Good	Good	Good
2680	Morang Dr/Childs Rd (Mill Park)	566	Excellent	Excellent	Poor	Excellent	Good	Excellent
2682	St Francis Of Assisi PS/Childs Rd (Mill Park)	566,382	Good	Good	Excellent	Excellent	Excellent	Excellent
2683	Mill Park Stables SC/Childs Rd (Mill Park)	566,382	Good	Good	Excellent	Excellent	Excellent	Excellent
2684	Mill Park Stables SC/Childs Rd (Mill Park)	564,566,383	Good	Good	Good	Good	Excellent	Excellent
2685	Dr Harry Jenkins Reserve/386 Childs Rd (Mill Park)	566	Fair	Fair	Fair	Fair	Excellent	Good
2686	Plenty Rd/Childs Rd (Mill Park)	566	Good	Fair	Good	Fair	Excellent	Good
2687	Blossom Park Dr/Plenty Rd (Mill Park)	386,387,566,383	Good	Good	Fair	Fair	Excellent	Fair
2688	Mayfield Dr/Plenty Rd (Mill Park)	386,387,566,383	No Coverage	Good	Poor	Poor	Fair	Poor
280	Memorial Ave/High St (Epping)	357,577,356	Fair	Poor	Poor	Fair	Good	Poor
270	Pommel Cres/Findon Rd (Epping)	577	Fair	Poor	Good	Good	Good	Excellent

271	Meadow Glenn Dr/Findon Rd (Epping)	577	Good	Fair	Good	Excellent	No Coverage	Good
272	Glendale Park/Findon Rd (Epping)	577	Good	Fair	Good	Good	Good	Good
273	Trafford Way/Findon Rd (Epping)	577	Poor	Fair	Fair	Poor	No Coverage	Poor
274	Gloucester Way/Findon Rd (Epping)	577	Poor	Poor	Poor	Poor	No Coverage	Fair
275	Barnard Ct/Findon Rd (Epping)	577	Fair	Poor	Poor	Poor	Fair	Fair
42751	Whittlesea City Council/Ferres Bvd (South Morang)	383	Excellent	Unusable	Poor	Excellent	Good	Fair
42752	Whittlesea City Council/Ferres Bvd (South Morang)	383	Good	Fair	Poor	Excellent	Excellent	Fair
48742	Westfield Plenty Valley/McDonalds Rd (South Morang)	386,387,901,382	Good	Fair	Unusable	Excellent	Excellent	Excellent
48743	Westfield Plenty Valley/McDonalds Rd (South Morang)	386,387,901,382	Good	Fair	Poor	Good	Excellent	Good
9969	Howell St/High St (Lalor)	557,555	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
9989	Cook St/Settlement Rd (Bundoora)	902	Excellent	Excellent	Good	Good	Excellent	Fair
9990	Brownhill St/Settlement Rd (Bundoora)	902	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
51199	South Morang Station/Civic Dr (South Morang)	383	Excellent	Fair	Fair	Good	Good	Good
7730	1670 Plenty Rd (Mernda)	385,382	No Coverage	No Coverage	No Coverage	No Coverage	No Coverage	No Coverage
7731	Arthurs Creek Rd/Plenty Rd (Mernda)	385,382	Poor	Fair	Poor	Fair	Poor	Poor
7732	Reservoir Rd/Plenty Rd (Yan Yean)	385,382	Fair	Excellent	No Coverage	Good	Excellent	Fair
7733	opp 2005 Plenty Rd (Yan Yean)	385,382	Poor	Good	No Coverage	Excellent	Fair	Fair
7734	2110 Plenty Rd (Yan Yean)	385,382	Poor	Fair	No Coverage	Fair	Poor	Poor
7735	2190 Plenty Rd (Yan Yean)	385,382	Poor	Good	No Coverage	Fair	Unusable	Poor
7736	Yan Yean Cemetery/Plenty Rd (Yan Yean)	385,382	Fair	Fair	No Coverage	Poor	Poor	Unusable
7737	Retland Dr/Plenty Rd (Whittlesea)	385,382	Fair	Excellent	No Coverage	Poor	Fair	Poor
7738	Whittlesea PS/Plenty Rd (Whittlesea)	385,382	Excellent	Good	No Coverage	Poor	Good	Poor
7739	Walnut St/Church St (Whittlesea)	384,385,382	Good	Excellent	No Coverage	Fair	Fair	Fair

7740	James St/Laurel St (Whittlesea)	385,382	Excellent	Excellent	No Coverage	Fair	Fair	Fair
7741	Forest St/Beech St (Whittlesea)	384	Excellent	Excellent	No Coverage	Good	Excellent	Fair
7742	Whittlesea Showgrounds/Yea Rd (Whittlesea)	384	Fair	Good	No Coverage	Fair	Good	Fair
7743	Hill St/Yea Rd (Whittlesea)	384	Good	Good	No Coverage	Excellent	Good	Excellent
7744	Jennifer Ct/Yea Rd (Whittlesea)	384	Good	Unusable	No Coverage	Good	Excellent	Good
7745	230 Yea Rd (Whittlesea)	384	Fair	Fair	No Coverage	Fair	Good	Poor
7746	Yea Rd/Humevale Rd (Humevale)	384	Poor	Fair	No Coverage	Fair	Fair	Fair
45955	Lalor Station/Station St (Lalor)	559	Fair	Good	Fair	Good	Fair	Fair
46000	Garden Grove Dr/McKimmies Rd (Mill Park)	570	No Coverage	No Coverage	No Coverage	No Coverage	No Coverage	No Coverage
44892	Northern Hospital (Epping)	358,577,901,357	No Coverage	Good	Excellent	Excellent	Excellent	Excellent
44893	Epping Plaza SC/Cooper St (Epping)	901	No Coverage	Good	Excellent	Excellent	Excellent	Excellent
4517	Garden Grove Dr/McKimmies Rd (Bundoora)	570	No Coverage	No Coverage	No Coverage	No Coverage	No Coverage	No Coverage
4518	Indigo Way/McKimmies Rd (Bundoora)	570	Good	Good	Fair	Good	No Coverage	Fair
4519	Bickley Ave/McKimmies Rd (Thomastown)	570	Fair	Excellent	Poor	Fair	Good	Fair
4520	Lalor East PS/McKimmies Rd (Thomastown)	570	Poor	Excellent	Fair	Good	Fair	Poor
4521	207 The Boulevard (Thomastown)	570	Poor	Excellent	Fair	Fair	Fair	Fair
4522	Myrtle St/The Boulevard (Thomastown)	570	Poor	Excellent	Poor	Fair	Fair	Poor
4523	Boronia St/The Boulevard (Thomastown)	570	Poor	Good	Poor	Poor	Fair	Poor
4524	Acacia St/The Boulevard (Thomastown)	570	Excellent	Good	Fair	Fair	Fair	Poor
4525	Belah St/The Boulevard (Thomastown)	570	Excellent	Good	Fair	Fair	Fair	Poor
4526	Wilgah St/The Boulevard (Thomastown)	570	Excellent	Good	Excellent	Excellent	Fair	Poor
43868	The Lakes Bvd/Findon Rd (South Morang)	387,386	Fair	Poor	Good	Excellent	Good	Excellent
43869	Whittlesea City Council/Findon Rd (South Morang)	387,386	Fair	Poor	Good	Excellent	Good	Excellent

43913	Riverside Dr/Gorge Rd (South Morang)	901	Unusable	Fair	Unusable	Fair	Fair	Unusable
43934	Scanlon Dr/Cooper St (Epping)	901	Poor	Fair	Unusable	Poor	Fair	Unusable
43935	Pound Rd/Cooper St (Epping)	901	Poor	Good	Good	Fair	Good	Poor
51010	Cathedral Rise/Timbertop Dr (Doreen)	381	Excellent	Excellent	Fair	Fair	Excellent	Good
51011	Cathedral Rise/Timbertop Dr (Doreen)	381	Excellent	Excellent	Fair	Fair	Excellent	Good
51012	Tarawera Rd/Hazel Glen Dr (Doreen)	381	Unusable	Fair	Fair	Fair	Good	Fair
51013	Brookwood Ave/Hazel Glen Dr (Doreen)	381	Poor	Good	Fair	Poor	Fair	Good
51014	Eliot Ave/Flaxen Hills Rd (Doreen)	381	Unusable	Fair	Unusable	Excellent	Fair	Excellent
51015	Eliot Ave/Flaxen Hills Rd (Doreen)	381	Unusable	Fair	Unusable	Excellent	Fair	Excellent
51016	Montville St/Eliot Ave (Doreen)	381	Poor	Poor	No Coverage	Excellent	Poor	Excellent
51017	Marley Bvd/Eliot Ave (Doreen)	381	Poor	Poor	No Coverage	Excellent	Fair	Excellent
51018	Merlin Views/Eliot Ave (Doreen)	381	Unusable	Unusable	No Coverage	Excellent	Poor	Excellent
51019	Merredin Cct/Eliot Ave (Doreen)	381	Unusable	Unusable	No Coverage	Excellent	Poor	Excellent
51020	Tooradin Cres/Laurimar Bvd (Doreen)	381	Unusable	Poor	No Coverage	Fair	Poor	Fair
51021	Besra Dr/Laurimar Bvd (Doreen)	381	Unusable	Poor	No Coverage	Fair	Poor	Fair
51022	Laurimar SC/Laurimar Bvd (Doreen)	381	Unusable	Poor	No Coverage	Fair	Poor	Good
51023	Laurimar SC/Waterway Bvd (Doreen)	381	Unusable	Poor	Unusable	Fair	Poor	Fair
51024	Waterway Bvd/Overland Dr (Doreen)	381	Unusable	Unusable	Unusable	Poor	Poor	Fair
51025	Waterway Bvd/Overland Dr (Doreen)	381	Poor	Unusable	Unusable	Poor	Fair	Fair
51026	Aylesbury Bvd/Bassetts Rd (Doreen)	381	Unusable	Fair	Unusable	Unusable	Fair	Unusable
51027	Aylesbury Bvd/Bassetts Rd (Doreen)	381	Unusable	Fair	Unusable	Unusable	Fair	Unusable
51029	Eminence Bvd/Bassetts Rd (Doreen)	381	Fair	Poor	Poor	Poor	Fair	Poor
51030	Eminence Bvd/Bassetts Rd (Doreen)	381	Fair	Poor	Poor	Poor	Fair	Poor
51031	Vantage Point Bvd/Bridge Inn Rd (Doreen)	385,389,381	Fair	Poor	Unusable	Unusable	Poor	Unusable
51032	Altitude Dr/Bassetts Rd (Doreen)	381	Fair	Fair	Poor	Poor	Unusable	Unusable

51033	Cookes Rd/Bridge Inn Rd (Doreen)	385,389,381	Fair	Fair	Poor	Fair	Fair	Poor
51034	Cookes Rd/Bridge Inn Rd (Doreen)	385,388,381	Fair	Poor	Poor	Poor	Fair	Poor
51036	Plenty Rd/Bridge Inn Rd (Mernda)	386,387,389,382	Fair	Poor	Fair	Fair	Good	Fair
51037	Fir St/Church St (Whittlesea)	382	Good	Excellent	No Coverage	Fair	Good	Fair
51038	Fir St/Church St (Whittlesea)	382	Good	Excellent	No Coverage	Fair	Good	Fair
51039	Nene Ct/Oakbank Bvd (Whittlesea)	382	Fair	Excellent	No Coverage	Poor	Fair	Poor
51040	Monaro Way/Oakbank Bvd (Whittlesea)	382	Fair	Fair	No Coverage	Poor	Poor	Fair
51041	Campaspe Dr/Oakbank Bvd (Whittlesea)	382	Unusable	Fair	No Coverage	Unusable	Fair	Unusable
51042	Campaspe Dr/Black Flat Rd (Whittlesea)	382	Unusable	Fair	No Coverage	Unusable	Unusable	Poor
2689	RMIT Bundoora Campus East/Plenty Rd (Bundoora)	386,387,566,383	No Coverage	Excellent	Poor	Fair	Fair	Fair
269	Mill Park SC Senior Campus/Findon Rd (Epping)	577	Fair	Unusable	Fair	Fair	Good	Excellent
2690	Bundoora RMIT/Plenty Rd (Bundoora)	383,566,382	No Coverage	Excellent	Unusable	Fair	Good	Fair
2691	Metropolitan Ring Rd/Plenty Rd (Bundoora)	566	No Coverage	Excellent	Unusable	Fair	Good	Poor
46332	Epping Station/Cooper St (Epping)	901	No Coverage	Fair	Excellent	Excellent	Good	Excellent
46333	Epping Station/Cooper St (Epping)	556	No Coverage	Fair	Excellent	Excellent	Excellent	Excellent
46334	Epping Station/Cooper St (Epping)	357,358,569,577,356	No Coverage	Fair	Excellent	Excellent	Excellent	Excellent
46335	Epping Station/Cooper St (Epping)	357,358,577,356	No Coverage	Fair	Excellent	Excellent	Excellent	Excellent
46337	Epping Station/Cooper St (Epping)	569	No Coverage	Good	Good	Excellent	Excellent	Excellent
46338	Epping Station/Cooper St (Epping)	556	No Coverage	Fair	Excellent	Excellent	Excellent	Excellent
46352	Hillsview Rec Reserve/Findon Rd (South Morang)	383	Good	Fair	Good	Excellent	Good	Good
46353	Koonunga Park/Findon Rd (South Morang)	383	Fair	Fair	Good	Excellent	Good	Good
46355	Nighthawk Bvd/Grange Dr (South Morang)	383	Fair	Fair	Fair	Good	Good	Good

46356	Triandra Dr/Gordons Rd (South Morang)	383	Poor	Fair	Poor	Poor	Good	Fair
46357	The Lakes P-12 College/Jardier Tce (South Morang)	383	Good	Fair	Poor	Fair	Good	Fair
46358	Decore Dr/Jardier Tce (South Morang)	383	Good	Good	Good	Fair	Fair	Fair
46359	Lakes Bvd/Jardier Tce (South Morang)	383	Good	Good	Good	Fair	No Coverage	Fair
46360	Shapiro Rise/Lamour Ave (South Morang)	383	Good	Good	Good	Fair	No Coverage	Good
46361	Birrali Way/Gordons Rd (South Morang)	383	Excellent	Good	Poor	Fair	No Coverage	Good
46362	Gordons Rd/Merdian Dr (South Morang)	383	Good	Good	Fair	Fair	No Coverage	Fair
46363	Ilyuka Way/Meridian Dr (South Morang)	383	Excellent	Good	Fair	Fair	No Coverage	Fair
46364	Quarry Hill Dr/Meridian Dr (South Morang)	383	Excellent	Fair	Poor	Poor	No Coverage	Fair
46365	Lockley Dr/Meridian Dr (South Morang)	383	No Coverage	No Coverage	No Coverage	No Coverage	No Coverage	No Coverage
46366	Gordons Rd/Vista Way (South Morang)	383	Excellent	Good	Poor	Fair	No Coverage	Good
46367	Imperial Tce/Lamour Ave (South Morang)	383	Good	Good	Good	Fair	No Coverage	Good
46368	The Lakes Bvd/Jardier Tce (South Morang)	383	Good	Good	Good	Fair	No Coverage	Fair
46369	Lapwing Rd/Jardier Tce (South Morang)	383	Good	Good	Good	Fair	Fair	Fair
46370	The Lakes South Morang College/Jardier Tce (South Morang)	383	Good	Fair	Poor	Fair	Good	Fair
46371	Triandra Park/Gordons Rd (South Morang)	383	Fair	Fair	Poor	Fair	Good	Fair
46372	Kinkora Cres/Grange Dr (South Morang)	383	Fair	Fair	Fair	Good	Good	Good
46374	Koonunga Park/Findon Rd (South Morang)	383	Fair	Fair	Good	Excellent	Good	Good
46375	Hillsview Rec Reserve/Findon Rd (South Morang)	383	Good	Fair	Good	Excellent	Good	Good
46376	Woodland Conservation Reserve/Waterview Dr (Mernda)	386	Fair	Fair	Poor	Poor	Fair	Fair
46377	Leonardo Dr/Breadalbane Ave (Mernda)	387	Good	Fair	Fair	Fair	Good	Fair
46378	Breadalbane Reserve/Breadalbane Ave (Mernda)	389,387	Poor	Poor	Fair	Fair	Good	Fair
46381	Breadalbane Reserve/Breadalbane Ave (Mernda)	388,387	Poor	Poor	Fair	Fair	Good	Fair
46382	Francesca Dr/Breadalbane Ave (Mernda)	387	Fair	Fair	Fair	Fair	Good	Fair

46385	Bridge Inn Rd/Plenty Rd (Mernda)	386	Good	Poor	Good	Good	Good	Good
46386	Bridge Inn Rd/Plenty Rd (Mernda)	386	Good	Poor	Fair	Fair	Good	Fair
46387	Plenty Rd/Bush Bvd (Mill Park)	387,386	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
46388	Plenty Rd/Bush Bvd (South Morang)	387,386	Poor	Fair	Fair	Fair	Good	Fair
46393	South Morang Station/Civic Dr (South Morang)	901	Excellent	Fair	Fair	Good	Good	Good
46394	South Morang Station/Civic Dr (South Morang)	901	Excellent	Fair	Fair	Good	Good	Good
46598	Laurimar Town Centre/Hazel Glen Dr (Doreen)	389	Unusable	Fair	Unusable	Excellent	Fair	Excellent
46599	Laurimar Town Centre/Hazel Glen Dr (Doreen)	388	Unusable	Fair	Unusable	Excellent	Fair	Excellent
46614	Epping Plaza SC/Cooper St (Epping)	357	No Coverage	Good	Good	Excellent	Excellent	Excellent
46615	Epping Plaza SC/Cooper St (Epping)	357	No Coverage	Good	Good	Excellent	Excellent	Excellent
46616	Epping Plaza SC/Cooper St (Epping)	556	No Coverage	Good	Excellent	Excellent	Excellent	Excellent
51044	Sumner Dr/Masons Rd (Mernda)	389	Poor	Fair	Poor	Poor	Fair	Unusable
51045	Muir Way/Pearson Rd (Mernda)	388	Poor	Fair	Poor	Poor	Fair	Unusable
51046	Masons Rd/Pearson Rd (Mernda)	389	No Coverage	No Coverage	Poor	Fair	No Coverage	Unusable
51047	Everard Rd/Pearson Rd (Mernda)	388	Poor	Fair	Unusable	Poor	Fair	Unusable
51048	Everard Rd/pearson Rd (Mernda)	389	Poor	Fair	Unusable	Poor	Fair	Unusable
51049	Mernda Ret Village/Pearson Rd (Mernda)	388	Poor	Fair	Fair	Poor	Poor	Unusable
51050	Mernda Ret Village/Pearson Rd (Mernda)	389	Poor	Fair	Poor	Poor	Poor	Unusable
51051	Mowbray St/Galloway Dr (Mernda)	386	Good	Good	Excellent	Good	Good	Good
51052	Stradling Rise/Galloway Dr (Mernda)	386	Fair	Good	Fair	Good	Good	Fair
51053	Langdon Dr/Galloway Dr (Mernda)	386	Good	Good	Good	Excellent	Good	Good
51054	Foothills Park/Galloway Dr (Mernda)	386	Good	Good	Good	Excellent	Good	Good
51055	Bridge Inn Rd/Cravens Rd (Mernda)	386	Good	Excellent	Good	Good	Good	Fair
51056	Bridge Inn Rd/Galloway Dr (Mernda)	386	Good	Excellent	Fair	Excellent	Good	Good
51057	Cortona Gra/Cravens Rd (Mernda)	386	Fair	Excellent	Fair	Good	Excellent	Fair
6961	Plenty Rd (Mill Park)	387,386	Good	Excellent	Poor	Poor	Good	Fair
6962	Rivergum Dr/Plenty Rd (Mill Park)	387,386	Excellent	Excellent	Poor	Fair	Good	Good

6963	Bottlebrush Dr/Plenty Rd (Mill Park)	387,386	Excellent	Excellent	Fair	Fair	Good	Good
46395	South Morang Station/Civic Dr (South Morang)	387,386	Excellent	Fair	Fair	Good	Good	Good
46396	South Morang Station/Civic Dr (South Morang)	382	Excellent	Fair	Fair	Good	Good	Good
46397	South Morang Station/Civic Dr (South Morang)	383	Excellent	Fair	Fair	Good	Good	Excellent
47941	Saltlake Bvd/Pine Park Dr (Wollert)	356	Excellent	Poor	Poor	Fair	No Coverage	Poor
47942	Epping Rd/Pine Park Dr (Wollert)	356	Excellent	Good	Good	Excellent	No Coverage	Excellent
47943	Baltrum Dr/Epping Rd (Wollert)	356	Fair	Fair	Poor	Good	No Coverage	Good
47944	Rhone Dr/Epping Rd (Wollert)	356	Good	Fair	Poor	Excellent	No Coverage	Excellent
47945	Harvest Home Rd/Epping Rd (Wollert)	356	Fair	Good	Fair	Excellent	No Coverage	Good
47947	Rhone Dr/Epping Rd (Wollert)	356	Fair	Fair	Poor	Excellent	No Coverage	Excellent
47948	Fulham Way/Epping Rd (Wollert)	356	Excellent	Fair	Good	Good	No Coverage	Good
47949	Epping Rd/Pine Park Dr (Wollert)	356	Excellent	Good	Good	Excellent	No Coverage	Excellent
47950	Cooper St/Miller St (Epping)	358	No Coverage	Excellent	Excellent	Excellent	Excellent	Excellent
47951	Rufus St/Miller St (Epping)	358	Fair	Fair	Excellent	Excellent	Good	Excellent
47953	Annalise Ave/Miller St (Epping)	358	Fair	Poor	Fair	Fair	Good	Poor
47954	Miller St/O'Herns Rd (Epping)	358	Fair	Poor	Fair	Fair	Good	Fair
47955	Wuchatsch Ave/Manor House Dr (Epping)	358	Fair	Unusable	Poor	Fair	Fair	Good
47956	Herlitz Dr/Manor House Dr (Epping)	358	Fair	Unusable	Unusable	Fair	Poor	Fair
47957	Northside Park/Northside Dr (Wollert)	358	Good	Poor	Fair	Good	No Coverage	Good
47958	The Parade/Northside Dr (Wollert)	358	Good	Poor	Fair	Good	No Coverage	Fair
47959	Empress Ave/Highpark Dr (Wollert)	358	Good	Fair	Fair	Good	No Coverage	Fair
47960	Bulait Dr/Empress Ave (Wollert)	358	Excellent	Excellent	No Coverage	Excellent	No Coverage	Excellent

47961	Evolve Esp/Contempo Bvd (Wollert)	358	Excellent	Excellent	Good	Fair	No Coverage	Good
47962	Playfields Pl/Empress Ave (Wollert)	358	Excellent	Excellent	No Coverage	Excellent	No Coverage	Excellent
47963	Highpark Dr/Empress Ave (Wollert)	358	Excellent	Fair	Fair	Good	No Coverage	Fair
47964	Champions Pde/Northside Dr (Wollert)	358	Good	Poor	Fair	Good	No Coverage	Fair
47965	Northside Park/Northside Dr (Wollert)	358	Good	Poor	Fair	Good	No Coverage	Good
47966	Langridge Dr/Manor House Dr (Epping)	358	Fair	Unusable	Unusable	Poor	Poor	Fair
47967	O'Herns Rd/Manor House Dr (Epping)	358	Fair	Unusable	Fair	Fair	Fair	Good
47968	Mecklenburg Cl/O'Herns Rd (Epping)	358	Poor	Poor	Poor	Fair	Good	Fair
51701	Vittorio Rd/Schotters Rd (Mernda)	385,382	Excellent	Excellent	Poor	Unusable	No Coverage	Unusable
51702	Schotters Rd/Hazel Glen Dr (Mernda)	388	Excellent	Excellent	Poor	Unusable	No Coverage	Unusable
51703	Hayes Rd/Schotters Rd (Mernda)	385,382	Excellent	Excellent	Poor	Unusable	Poor	Unusable
51704	Bridge Inn Rd/Schotters Rd (Mernda)	385,382	Good	Fair	Poor	Poor	Fair	Poor
51705	Mernda Adventure Park/Mernda Village Dr (Mernda)	386	Excellent	Excellent	Unusable	Unusable	Poor	Unusable
51706	Creek Park/Mernda Village Dr (Mernda)	386	Excellent	Excellent	Unusable	Unusable	Poor	Unusable
51707	Mernda Village Medical/Mernda Village Dr (Mernda)	388	Poor	Fair	Poor	Fair	Fair	Poor
51708	Mernda Village SC/Galloway Dr (Mernda)	389,386	Unusable	Poor	Poor	Poor	Poor	Poor
51709	Breadalbane Ave/Waterview Dr (Mernda)	386	Fair	Fair	Poor	Poor	Fair	Good
51710	Hazel Glen Child and Family Centre/Painted Hills Rd (Doreen)	389	Unusable	Poor	Poor	Poor	Poor	Unusable
51711	Hazel Glen Child and Family Centre/Painted Hills Rd (Doreen)	388	Poor	Fair	Poor	Poor	Poor	Unusable
51712	Clancy Way/Painted Hills Rd (Doreen)	388	Good	Fair	Poor	Fair	Fair	Poor
51713	Clancy Way/Painted Hills Rd (Doreen)	389	Good	Fair	Poor	Fair	Fair	Poor
51714	Resort Bvd/Bridge Inn Rd (Doreen)	388	Fair	Poor	Poor	Poor	Fair	Poor
51715	Lexington Ave/Bridge Inn Rd (Doreen)	389	Fair	Poor	Poor	Poor	Fair	Poor
51716	Bassetts Rd/Bridge Inn Rd (Doreen)	388	Fair	Poor	Unusable	Poor	Unusable	Poor
51717	Independence Bvd/Elation Bvd (Doreen)	385	Good	Good	Fair	Good	Good	Good

51718	Independence Bvd/Elation Bvd (Doreen)	385	Good	Excellent	Fair	Good	Good	Good
51719	Nurture Ave/Elation Bvd (Doreen)	385	Fair	Fair	Poor	Fair	Fair	Poor
51720	Nurture Ave/Elation Bvd (Doreen)	385	Fair	Fair	Poor	Fair	Fair	Poor
51721	Lincoln Way/Wallaroo Way (Doreen)	385	No Coverage	No Coverage	No Coverage	No Coverage	No Coverage	No Coverage
51722	Lincoln Way/Wallaroo Way (Doreen)	385	No Coverage	No Coverage	No Coverage	No Coverage	No Coverage	No Coverage
51723	Purcell St/Wallaroo Way (Doreen)	385	Poor	Unusable	Poor	Poor	Fair	Poor
51724	Purcell St/Wallaroo Way (Doreen)	385	Poor	Unusable	Poor	Poor	Fair	Poor
51725	Coolibah St/Wallaroo Way (Doreen)	385	Poor	Unusable	Poor	Poor	Fair	Poor
51726	Coolibah St/Wallaroo Way (Doreen)	385	Poor	Poor	Poor	Poor	Fair	Poor
51727	Fleetwood Dr/Vantage Point Bvd (Doreen)	385	Poor	Poor	Poor	Poor	Fair	Fair
51728	Cootamundra Rd/Vantage Point Bvd (Doreen)	385	Fair	Fair	Poor	Poor	Fair	Poor
51729	Towerhill Rd/Vantage Point Bvd (Doreen)	385	Fair	Fair	Poor	Poor	Fair	Poor
51730	Beacon Pl/Vantage Point Bvd (Doreen)	385	Fair	Poor	Unusable	Unusable	Poor	Unusable
51731	Mernda Station/Bridge Inn Rd (Mernda)	388,389,386	Good	Fair	Unusable	Unusable	Fair	Poor
51732	Mernda Station/Bridge Inn Rd (Mernda)	388,389,387	Good	Fair	Unusable	Unusable	Poor	Unusable
51733	Mernda Station/Bridge Inn Rd (Mernda)	382,385,381	Good	Fair	Unusable	Unusable	Fair	Poor
51734	Mernda Station/Bridge Inn Rd (Mernda)	385,382	Good	Fair	Unusable	Unusable	Poor	Unusable
51735	Hawkstowe Station/Hawkstowe Pde (South Morang)	387	Poor	Fair	Poor	Fair	Good	Poor
51736	Hawkstowe Station/Hawkstowe Pde (South Morang)	387	Fair	Fair	Poor	Good	Good	Fair
51737	Middle Gorge Station/Williamsons Rd (South Morang)	383	Poor	Poor	Poor	Good	Good	Fair
51738	Hawkstowe Station/Plenty Rd (South Morang)	386	Fair	Good	Fair	Fair	Good	Fair
51058	Cortona Gra/Cravens Rd (Mernda)	386	Fair	Excellent	Fair	Good	Excellent	Fair
51059	Rowanval Tce/Cravens Rd (Mernda)	386	Good	Good	Fair	Good	Good	Good
51060	Rowanval Tce/Cravens Rd (Mernda)	386	Good	Good	Fair	Good	Good	Good
51061	Waterview Dr/Cravens Rd (Mernda)	386	Good	Fair	Fair	Fair	Good	Good
51062	Waterview Dr/Cravens Rd (Mernda)	386	Good	Fair	Fair	Fair	Good	Good
51063	Woodland Waters Reserve/Waterview Dr (Mernda)	386	Fair	Good	Fair	Fair	Fair	Good
51064	Woodland Waters Reserve/Waterview Dr (Mernda)	386	Excellent	Good	Fair	Fair	Fair	Good

51066	Marymede Catholic College/Williamsons Rd (South Morang)	383	Fair	Poor	Poor	Good	Good	Fair
51067	Songbird Cres/Vincent Dr (South Morang)	383	Fair	Fair	Fair	Excellent	Good	Good
51068	Songbird Cres/Vincent Dr (South Morang)	383	Fair	Fair	Fair	Good	Good	Good
51069	Grange Dr/Williamsons Rd (South Morang)	383	Good	Fair	Good	Excellent	Good	Good
51070	Grange Dr/Williamsons Rd (South Morang)	383	Good	Fair	Good	Excellent	Good	Good
51071	Wilton Vale Rd (South Morang)	387	Good	Excellent	Fair	Good	Fair	Fair
51072	Wilton Vale Rd (South Morang)	387	Good	Good	Poor	Fair	Fair	Good
51073	Serendip Ave/Hawkstowe Pde (South Morang)	387	Poor	Poor	Unusable	Poor	Poor	Poor
51074	Serendip Ave/Hawkstowe Pde (South Morang)	387	Poor	Poor	Poor	Poor	Poor	Unusable
51075	Conelly Park/Hawkstowe Pde (South Morang)	387	Fair	Good	Fair	Fair	Fair	Fair
51076	Dixon Creek Dr/Hawkstowe Pde (South Morang)	387	Fair	Good	Poor	Poor	Fair	Unusable
51077	Muswellbrook Gr/Barmah Dr (South Morang)	387	Fair	Good	Poor	Poor	Fair	Fair
51078	Muswellbrook Gr/Barmah Dr (South Morang)	387	Fair	Good	Poor	Poor	Fair	Fair
51079	Marseilles Pl/Riverdale Bvd (South Morang)	387	Fair	Fair	Poor	Poor	Fair	Fair
51080	The Parkway/Riverdale Bvd (South Morang)	387	Fair	Fair	Poor	Poor	Fair	Fair
51081	Mabel St/Hazel Glen Dr (Doreen)	389	Unusable	Unusable	No Coverage	Fair	Poor	Fair
51082	Mabel St/Hazel Glen Dr (Doreen)	388	Unusable	Unusable	No Coverage	Fair	Poor	Fair
51083	Morinda Way/Flaxen Hills Rd (Doreen)	388	Poor	Fair	Unusable	Excellent	Good	Excellent
51084	Lakeland Dr/Flaxen Hills Rd (Doreen)	389	Poor	Fair	Unusable	Excellent	Good	Excellent
51085	Overland Dr/Flaxen Hills Rd (Doreen)	389	Poor	Poor	Unusable	Fair	Fair	Fair
51086	Overland Dr/Flaxen Hills Rd (Doreen)	388	Poor	Poor	Unusable	Fair	Fair	Fair
51087	Pinnacle Vews/Flaxen Hills Rd (Doreen)	389	Poor	Poor	Fair	Fair	Fair	Fair
51088	Pinnacle Vews/Flaxen Hills Rd (Doreen)	388	Poor	Poor	Fair	Fair	Fair	Fair
51089	Graffs Ave/Eminence Bvd (Doreen)	389	Poor	Good	Poor	Fair	Fair	Poor
51090	Marengo Ave/Eminence Bvd (Doreen)	388	Poor	Fair	Poor	Poor	Fair	Poor
51091	Hazel Glen College/Eminence Bvd (Doreen)	381	Poor	Fair	Poor	Fair	Fair	Unusable
51097	Travertine Cres/Elation Bvd (Doreen)	385	Good	Excellent	Fair	Good	Good	Good

51098	Adoquin St/Elation Bvd (Doreen)	385	Good	Excellent	Fair	Good	Good	Good
51099	Orchard Rd/Elation Bvd (Doreen)	385	Excellent	Good	Good	Good	Excellent	Fair
51100	Orchard Rd/Elation Bvd (Doreen)	385	Good	Good	Good	Good	Excellent	Fair
51102	Arrowgrass St/McArthurs Rd (South Morang)	387,386	Fair	Good	Fair	Fair	Good	Fair
51103	Bulimba Dr/Hazel Glen Dr (Doreen)	389	Poor	Poor	No Coverage	Good	Poor	Good
51104	Newstead Rd/Hazel Glen Dr (Doreen)	388	Unusable	Poor	No Coverage	Fair	Poor	Good
51107	University Hill/Chancellor Ave (Bundoora)	570,383	No Coverage	Excellent	Unusable	Fair	Fair	Poor
51110	Hollaway Dr/Cravens Rd (Mernda)	386	Fair	Excellent	Fair	Good	Excellent	Fair
51111	Hollaway Dr/Cravens Rd (Mernda)	386	Fair	Excellent	Fair	Good	Excellent	Fair
46398	South Morang Station/Civic Dr (South Morang)	387,386	Excellent	Fair	Fair	Good	Good	Good
46399	South Morang Station/Civic Dr (South Morang)	382	Excellent	Fair	Fair	Good	Good	Good
46401	South Morang Station/Civic Dr (South Morang)	577	Excellent	Fair	Fair	Good	Good	Good
46402	South Morang Station/Civic Dr (South Morang)	569	Excellent	Fair	Fair	Good	Good	Excellent
46403	South Morang Station/Civic Dr (South Morang)	564	Excellent	Fair	Good	Good	Good	Excellent
46404	Mill Park Sec Col Senior Campus/Civic Dr (Epping)	386,387,577,383	Fair	Unusable	Good	Excellent	Good	Excellent
46405	Mill Park Sec Col Senior Campus/Civic Dr (Epping)	386,387,577,383	Fair	Unusable	Good	Excellent	Good	Excellent
46448	Plenty Rd/Ormond Bvd (Bundoora)	387,570,386	No Coverage	Excellent	Poor	Fair	Fair	Poor
47969	Annalise Ave/Miller St (Epping)	358	Fair	Poor	Poor	Fair	Good	Poor
47970	Dilop Dr/Miller St (Epping)	358	Fair	Poor	Excellent	Excellent	Good	Excellent
48075	Epping Plaza SC/Cooper St (Epping)	577	No Coverage	Good	Excellent	Excellent	Excellent	Excellent
48210	Hazel Glen Dr/Schotters Rd (Mernda)	385,389,382	Excellent	Excellent	Poor	Unusable	No Coverage	Unusable
40683	Plenty Rd/McDonalds Rd (South Morang)	901,382	Good	Poor	Good	Good	Fair	Good
40957	Toulouse Rd/The Lakes Bvd (South Morang)	387,386	Good	Good	Good	Excellent	Fair	Fair
40958	Mill Park Lakes Reserve/The Lakes Bvd (South Morang)	387,386	Good	Good	Fair	Fair	Fair	Good
40960	Toulouse Rd/The Lakes Bvd (South Morang)	387,386	Fair	Poor	Fair	Fair	Fair	Fair
40961	Mill Park Lakes Reserve/The Lakes Bvd (South Morang)	387,386	Good	Good	Good	Fair	Fair	Good

7479	Cambala Ave/Gillwell Rd (Lalor)	557	Fair	Good	Poor	Poor	Excellent	Poor
48850	Donnybrook Railway Station (Donnybrook)	511	Poor	Poor	Poor	Fair	Fair	Poor
48851	Donnybrook Railway Station (Donnybrook)	525	Poor	Poor	Poor	Fair	Fair	Poor
47971	Rufus St/Miller St (Epping)	358	Fair	Fair	Excellent	Excellent	Good	Excellent
47972	Cooper St/Miller St (Epping)	358	No Coverage	Excellent	Excellent	Excellent	Excellent	Excellent
47973	Epping Rd/Hayston Bvd (Epping)	356	Good	Good	Unusable	Fair	Poor	Fair
47974	Epping Rd/Hayston Bvd (Epping)	356	Good	Good	Unusable	Fair	Poor	Fair
47975	Redding Rise/Lyndarum Dr (Epping)	357	Fair	Unusable	Unusable	Poor	Poor	Poor
47976	Rockfield St/Edgars Rd (Epping)	357	Excellent	Excellent	Unusable	Excellent	Good	Excellent
47977	Zinnober Gdns/Edgars Rd (Epping)	357	Fair	Excellent	Unusable	Poor	Poor	Poor
47978	Gammage Bvd/Edgars Rd (Epping)	357	Excellent	Excellent	Unusable	Poor	Poor	Unusable
47979	Harvest Home Rd/Edgars Rd (Wollert)	357	Excellent	Good	Poor	Poor	Fair	Poor
47984	Eaststone Ave/Edgars Rd (Wollert)	357	Good	Good	Poor	Fair	Fair	Poor
47985	Harvest Home Rd/Edgars Rd (Epping)	357	Fair	Excellent	Poor	Poor	Poor	Poor
47986	Gammage Bvd/Edgars Rd (Epping)	357	Excellent	Excellent	Unusable	Unusable	Poor	Poor
47987	Hemlock Way/Edgars Rd (Epping)	357	Good	Excellent	Unusable	Fair	Poor	Fair
47988	Edgars Rd/Rockfield St (Epping)	357	Excellent	Excellent	Unusable	Excellent	Good	Excellent
47989	Redding Rise/Rockfield St (Epping)	357	Fair	Fair	Poor	Poor	Poor	Poor
47991	Epping Plaza SC/Cooper St (Epping)	358	No Coverage	Good	Excellent	Excellent	Excellent	Excellent
5056	Childs Rd/High St (Lalor)	555	Fair	Poor	Unusable	Poor	Fair	Poor
5057	Kiama Dr/High St (Lalor)	555	Poor	Poor	Fair	Poor	Fair	Poor
5058	Lalor Station/High St (Lalor)	555	Poor	Poor	Fair	Poor	Good	Poor
5059	Robert St/High St (Lalor)	555,554	Fair	Good	Good	Fair	Fair	Fair
5061	Travers St/High St (Thomastown)	555,554	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
5062	Chappell St/High St (Thomastown)	555,554	Excellent	Excellent	Excellent	Good	Good	Good
5065	Settlement Rd/High St (Thomastown)	555	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
5067	Keon Park Station/High St (Thomastown)	555	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
281	Rufus St/High St (Epping)	556	Fair	Fair	Poor	Poor	Fair	Fair

284	High St/Cooper St (Epping)	358,569,577,901,357	Fair	Good	Good	Excellent	Good	Good
40784	Falcon St/Victoria Dr (Thomastown)	557	Fair	Fair	Poor	Fair	Fair	Poor
40785	HR Uren Reserve/Victoria Dr (Thomastown)	557	Good	Good	Fair	Fair	Good	Fair
40786	Tranquil Pl/Victoria Dr (Thomastown)	557	Unusable	Fair	Poor	Poor	Fair	Poor
40787	Victoria Park/Victoria Dr (Thomastown)	557	Poor	Fair	Poor	Poor	Fair	Fair
40788	Salamander Ave/Victoria Dr (Thomastown)	557	Poor	Fair	Poor	Good	Good	Fair
40789	Kemp Ave/Spring St (Thomastown)	557	Poor	Fair	Poor	Fair	Fair	Poor
40790	Hazel Ave/Spring St (Thomastown)	557	Fair	Fair	Fair	Poor	Fair	Fair
8164	Cooper St/High St (Epping)	555	Fair	Fair	Excellent	Fair	Excellent	Excellent
7662	Childs Rd/Plenty Rd (Mill Park)	387,386	Good	Good	Fair	Fair	Good	Good
7663	Plenty Rd (Mill Park)	387,386	Good	Excellent	Poor	Poor	Good	Fair
7664	Rivergum Dr/Plenty Rd (Mill Park)	387,386	Excellent	Excellent	Poor	Fair	Good	Excellent
7665	Centenary Dr/Plenty Rd (Mill Park)	387,386	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
7669	McDonalds Rd/Plenty Rd (South Morang)	382	Fair	Poor	Good	Fair	Good	Fair
7672	Stagecoach Bvd/Plenty Rd (South Morang)	382	Good	Excellent	Unusable	Excellent	Fair	Good
7673	Gordons Rd/Plenty Rd (South Morang)	382	Fair	Fair	Poor	Fair	Fair	Fair
7674	The Lakes Bvd/Plenty Rd (South Morang)	382	Excellent	Good	Poor	Poor	Fair	Fair
7675	Hawkstowe Station/Plenty Rd (South Morang)	382	Fair	Good	Fair	Fair	Good	Fair
7676	Riverdale Bvd/Plenty Rd (South Morang)	386,382	Fair	Excellent	Good	Fair	Good	Good
7677	Waterview Dr/Plenty Rd (Mernda)	386,387,382	Fair	Good	Fair	Fair	Fair	Good
7679	Plenty Rd/Bridge Inn Rd (Mernda)	386,387,388,382	Good	Fair	Fair	Good	Good	Good
7680	Bridge Inn Rd/Schotters Rd (Mernda)	385,382	Fair	Good	Poor	Poor	Fair	Fair
7682	Hayes Rd/Schotters Rd (Mernda)	385,382	Excellent	Excellent	Poor	Unusable	Poor	Unusable
7684	Brendan St/Schotters Rd (Mernda)	385,382	Excellent	Excellent	Poor	Unusable	Poor	Unusable
7685	Plenty Rd (Mernda)	385,382	No Coverage	No Coverage	No Coverage	No Coverage	No Coverage	No Coverage
7686	Arthurs Creek Rd/Plenty Rd (Mernda)	385,382	Poor	Unusable	Poor	Good	Poor	Poor
7687	Donnybrook Rd/Plenty Rd (Yan Yean)	385,382	Fair	Fair	No Coverage	Good	Poor	Fair

7688	2005 Plenty Rd (Yan Yean)	385,382	Poor	Good	No Coverage	Excellent	Fair	Good
7689	2115 Plenty Rd (Yan Yean)	385,382	Poor	Fair	No Coverage	Fair	Poor	Unusable
7690	2195 Plenty Rd (Yan Yean)	385,382	Poor	Good	No Coverage	Fair	Unusable	Poor
7691	Yan Yean Cemetery/Plenty Rd (Yan Yean)	385,382	Fair	Fair	No Coverage	Fair	Poor	Unusable
7692	Retland Dr/Plenty Rd (Whittlesea)	385,382	Fair	Excellent	No Coverage	Good	Fair	Poor
7693	Whittlesea PS/Plenty Rd (Whittlesea)	385,382	Excellent	Excellent	No Coverage	Fair	Fair	Poor
7694	Church St/Walnut St (Whittlesea)	384,385,382	Excellent	Excellent	No Coverage	Fair	Fair	Fair
7697	Hill St/Yea Rd (Whittlesea)	384	Excellent	Poor	No Coverage	Excellent	Good	Excellent
7698	Fore St/Yea Rd (Whittlesea)	384	Good	Unusable	No Coverage	Good	Excellent	Good
7699	225 Yea Rd (Whittlesea)	384	Fair	Fair	No Coverage	Fair	Good	Poor
7700	Yea Rd/Humevale Rd (Humevale)	384	Poor	Fair	No Coverage	Fair	Fair	Poor
7701	179 Humevale Rd (Humevale)	384	Unusable	Unusable	No Coverage	Poor	Poor	Poor
7710	Centenary Dr/Plenty Rd (Mill Park)	387,386	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
7714	Cambala Ave/Gillwell Rd (Lalor)	554	Fair	Fair	Poor	Poor	Good	Poor
7715	Highview Dr/Plenty Rd (South Morang)	382	Fair	Poor	Poor	Unusable	Fair	Fair
7716	Stagecoach Bvd/Plenty Rd (South Morang)	382	Good	Good	Unusable	Fair	Good	Fair
7717	Gordons Rd/Plenty Rd (South Morang)	382	Excellent	Good	Fair	Fair	Fair	Fair
7718	The Lakes Bvd/Plenty Rd (South Morang)	382	Excellent	Good	Poor	Fair	Fair	Good
7719	Hawkstowe Station/Plenty Rd (South Morang)	382	Good	Good	Fair	Fair	Good	Fair
7720	Riverdale Bvd/Plenty Rd (South Morang)	386,382	Fair	Excellent	Good	Fair	Good	Good
7721	The Parkway/Plenty Rd (Mernda)	386,387,382	Good	Good	Fair	Fair	Good	Good
7722	Tangelo Gr/Plenty Rd (Mernda)	387,382	Fair	Good	Poor	Poor	Fair	Fair
884	Briar Ct/Gorge Rd (South Morang)	901	Fair	Good	Fair	Excellent	Fair	Poor

885	Oleander Dr/McDonalds Rd (South Morang)	901,382	Good	Good	Good	Excellent	Excellent	Excellent
888	Civic Dr/Morang Dr (Mill Park)	383,564,569,382	Excellent	Poor	Good	Good	Fair	Good
889	Centenary Dr/Morang Dr (Mill Park)	383,564,569,382	Excellent	Poor	Good	Good	Fair	Good
40154	Walling Way/Serle St (Doreen)	381	Poor	Unusable	Excellent	Excellent	Good	Good
890	Morang Dr/Centenary Dr (Mill Park)	564,383	Excellent	Poor	Good	Fair	Good	Good
43365	Gordons Rd/The Lakes Bvd (South Morang)	387,386	Good	Fair	Poor	Fair	Fair	Good
43366	Fitzgerald Dr/The Lakes Bvd (South Morang)	387,386	Fair	Fair	Good	Good	Fair	Good
43367	Grange Dr/The Lakes Bvd (South Morang)	387,386	Good	Fair	Fair	Fair	No Coverage	Excellent
43368	Red Oaks Park/The Lakes Bvd (South Morang)	387,386	Excellent	Good	Good	Excellent	Fair	Excellent
48492	Bridge Inn Rd/Bassetts Rd (Doreen)	381	Poor	Unusable	Unusable	Unusable	Unusable	Unusable
41667	Howell St/High St (Lalor)	555,554	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
41963	Harvest Home Rd/Greenfields Dr (Epping)	358	Poor	Poor	Poor	Poor	Poor	Unusable
41965	Farmhouse Bvd/Greenfields Dr (Epping)	358	Poor	Poor	Unusable	Poor	Poor	Poor
41966	Creeds Farm Rd/Greenfields Dr (Epping)	358	Fair	Fair	Unusable	Poor	Poor	Poor
41967	Abercrombie Gr/Lyndarum Dr (Epping)	357	Fair	Fair	Unusable	Unusable	Poor	Poor
41968	Great Brome Ave/Lyndarum Dr (Epping)	357	Poor	Poor	Unusable	Poor	Poor	Unusable
41969	Dunolly St/Lyndarum Dr (Epping)	357	Good	Good	Unusable	Fair	Poor	Fair
41970	Epping Views PS/Lyndarum Dr (Epping)	357	Fair	Good	Unusable	Fair	Poor	Poor
41971	Epping North SC/Lyndarum Dr (Epping)	357	Good	Fair	Unusable	Fair	Poor	Poor
41972	Epping Views PS/Lyndarum Dr (Epping)	357	Fair	Good	Unusable	Fair	Poor	Poor
41973	Dunolly St/Lyndarum Dr (Epping)	357	Fair	Fair	Unusable	Unusable	Poor	Poor
41974	Great Brome Ave/Lyndarum Dr (Epping)	357	Poor	Poor	Unusable	Poor	Poor	Unusable
41975	Abercrombie Grove Gr/Lyndarum Dr (Epping)	357	Fair	Poor	Unusable	Unusable	Poor	Unusable
41976	Creeds Farm Rd/Greenfields Dr (Epping)	358	Good	Fair	Unusable	Poor	Poor	Poor
41977	Taberer Ct/Greenfields Dr (Epping)	358	Poor	Poor	Poor	Poor	Poor	Unusable
41979	Harvest Home Rd/Greenfields Dr (Epping)	358	Poor	Poor	Poor	Poor	Poor	Unusable
48556	Edgars Rd/Cooper St (Epping)	901	Poor	Good	Poor	Fair	Good	Fair
48557	Edgars Rd/Cooper St (Epping)	901	Poor	Fair	Poor	Poor	Good	Fair

43954	Pound Rd/Cooper St (Epping)	901	Poor	Good	Poor	Fair	Fair	Poor
43955	Scanlon Dr/Cooper St (Epping)	901	Fair	Fair	Poor	Poor	Fair	Poor
43957	Riverside Dr/Gorge Rd (South Morang)	901	Good	Unusable	Fair	Fair	Fair	Unusable
44037	Epping Plaza Shopping Centre/Cooper St (Epping)	901	No Coverage	Excellent	Excellent	Excellent	Excellent	Excellent
5015	Jovic Rd/High St (Epping)	555	Fair	Poor	Unusable	Fair	Fair	Fair
7212	Lalor Station/Station St (Lalor)	566	Good	Good	Fair	Fair	Good	Fair
891	Pulford Cres/Centenary Dr (Mill Park)	564,383	Good	Good	Fair	Fair	Good	Fair
892	Centenary Dr/Redleap Ave (Mill Park)	564	Fair	Excellent	Fair	Fair	Fair	Fair
893	Christie Ave/Redleap Ave (Mill Park)	564	Fair	Good	Unusable	Poor	Fair	Poor
8473	Betula Ave/McKimmies Rd (Mill Park)	570	No Coverage	Good	Poor	Fair	Good	Fair
8475	Indigo Way/McKimmies Rd (Mill Park)	570	Good	Good	Fair	Good	No Coverage	Fair
8476	Bickley Ave/McKimmies Rd (Lalor)	570	Fair	Excellent	Poor	Fair	Fair	Fair
8478	190 The Boulevard (Thomastown)	570	Poor	Excellent	Fair	Fair	Fair	Poor
8479	Dalton Rd/The Boulevard (Thomastown)	570	Poor	Excellent	Poor	Fair	Fair	Poor
8480	Boronia St/The Boulevard (Thomastown)	570	Poor	Good	Fair	Poor	Fair	Unusable
8481	Acacia St/The Boulevard (Thomastown)	570	Excellent	Good	Fair	Fair	Fair	Poor
8482	Belah St/The Boulevard (Thomastown)	570	Excellent	Good	Fair	Fair	Fair	Poor
8483	Wilgah St/The Boulevard (Thomastown)	570	Excellent	Excellent	Good	Good	Excellent	Fair
8484	Thomastown Station/Station St (Thomastown)	570	Excellent	Excellent	Good	Good	Good	Fair
43369	Flowering Gum Park/The Lakes Bvd (South Morang)	387,386	Excellent	Good	Good	Fair	Fair	Good
43370	Grange Dr/The Lakes Bvd (South Morang)	387,386	Good	Fair	Fair	Fair	No Coverage	Good
43371	Fitzgerald Dr/The Lakes Bvd (South Morang)	387,386	Fair	Fair	Good	Good	Fair	Good
43372	Gordons Rd/The Lakes Bvd (South Morang)	387,386	Good	Poor	Fair	Fair	Fair	Fair
43373	Red Oaks Park/Red Oaks Way (South Morang)	387,386	Excellent	Good	Good	Good	Good	Good
43374	Hillcroft Park/Cuckoo St (South Morang)	387,386	Excellent	Excellent	Fair	Good	Good	Good
43375	McArthurs Rd/Poppy Dr (South Morang)	387,386	Good	Good	Poor	Good	Good	Fair
43376	McArthurs Rd/Poppy Dr (South Morang)	387,386	Good	Good	Poor	Good	Good	Fair

43377	Hillcroft Park/Cuckoo St (South Morang)	387,386	Excellent	Excellent	Fair	Good	Good	Excellent
43378	Red Oaks Park/Red Oaks Way (South Morang)	387,386	Excellent	Fair	Excellent	Fair	Fair	Good
43379	Plenty Rd/Waterview Dr (Mernda)	386	Fair	Good	Poor	Poor	Fair	Good
43380	Plenty Rd/Waterview Dr (Mernda)	386	Fair	Good	Poor	Poor	Fair	Good
43385	Langdon Dr/Mernda Village Dr (Mernda)	389	Poor	Good	Poor	Fair	Excellent	Fair
43386	Mernda Village SC/Mernda Village Dr (Mernda)	386	Unusable	Fair	Poor	Poor	Poor	Unusable
43388	Langdon Dr/Mernda Village Dr (Mernda)	388	Poor	Good	Fair	Fair	Excellent	Fair
43389	Greig Dr/Mernda Village Dr (Mernda)	386	Excellent	Excellent	Unusable	Unusable	Poor	Unusable
43390	Greig Dr/Mernda Village Dr (Mernda)	386	Excellent	Excellent	Unusable	Unusable	Poor	Unusable
43392	Perendale Pl/Overland Dr (Doreen)	381	Poor	Unusable	Unusable	Poor	Fair	Poor
43393	Perendale Pl/Overland Dr (Doreen)	381	Poor	Unusable	Unusable	Poor	Fair	Poor
43400	Ballam Way/Hazel Glen Dr (Doreen)	389	Unusable	Unusable	No Coverage	Fair	Fair	Fair
43416	Ballam Way/Hazel Glen Dr (Doreen)	388	Unusable	Unusable	No Coverage	Fair	Fair	Fair
43438	Scholar Dr/Enterprise Dr (Bundoora)	383	No Coverage	Excellent	Unusable	Fair	Poor	Poor
43439	Enterprise Dr/Mammalia Dr (Bundoora)	383	No Coverage	Excellent	Unusable	Fair	Poor	Poor
43440	Janefield Dr/Linacre Dr (Bundoora)	383	No Coverage	Excellent	Unusable	Fair	Poor	Poor
43441	Janefield Dr/Ormond Bvd (Bundoora)	383	No Coverage	Excellent	Unusable	Poor	Poor	Poor
43442	Chancellor Ave/Ormond Bvd (Bundoora)	383	No Coverage	Excellent	Poor	Fair	Fair	Unusable
43443	University Hill/Chancellor Ave (Bundoora)	387,386	No Coverage	Excellent	Unusable	Fair	Fair	Poor
43444	Plenty Rd/Janefield Dr (Bundoora)	386,387,570,383	No Coverage	Excellent	Unusable	Unusable	Good	Fair
43463	Ashgate Dr/Orchard Rd (Doreen)	381	Poor	Good	Good	Good	Good	Good
4740	Settlement Rd/High St (Thomastown)	555	Excellent	Excellent	Excellent	Excellent	Excellent	Good
4741	Austarc Ave/High St (Thomastown)	555	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
4742	Spring St/High St (Thomastown)	555	Good	Excellent	Excellent	Excellent	Excellent	Good
4744	Westall St/High St (Thomastown)	557,555	Excellent	Excellent	Excellent	Good	Good	Fair

4745	Travers St/High St (Thomastown)	557,555	Excellent	Excellent	Excellent	Excellent	Good	Excellent
4747	Robert St/High St (Lalor)	557,555	Fair	Good	Good	Fair	Fair	Fair
4748	Lalor Station/High St (Lalor)	555	Poor	Poor	Poor	Unusable	Good	Poor
4749	Kiama Dr/High St (Lalor)	555	Poor	Poor	Poor	Fair	Fair	Poor
4750	Childs Rd/High St (Lalor)	555	Fair	Poor	Fair	Fair	Fair	Fair
4751	Jovic Rd/High St (Epping)	555	Fair	Fair	Good	Fair	Excellent	Excellent
4754	Northern Hospital/Cooper St (Epping)	358,555,556,569,901,000	No Coverage	Good	Good	Excellent	Excellent	Excellent