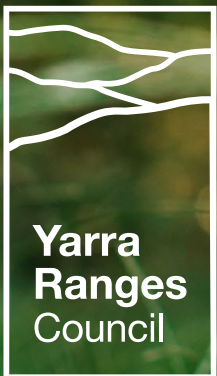# Telecommunications

Mobile and internet connectivity in Yarra Ranges

Yarra Ranges Council

Mobile service and internet connectivity is critical for connecting us to work, education, emergency information, and friends and family.

But we know that telecommunications services simply aren't reliable in many parts of the Yarra Ranges.

This has never been clearer than during the COVID-19 pandemic, and the June 2021 storms when **34 communities lost mobile and internet service for days, unable to contact 000 or family and friends.** Some residents and businesses lost NBN service for more than three months.

To help us advocate for better service, Yarra Ranges Council has completed a study on mobile and broadband connectivity across the region.

Mobile network quality 'drive testing' was undertaken by a technical consultant at 24,493 sites, including key segments of the road network and 655 other points of interest, including:
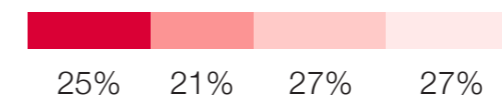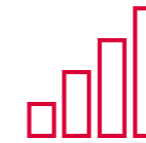
community fire refuges

Neighbourhood Safer Places (places of last resort)

ESTA emergency markers

Council firefighting water tanks

Schools

community centres

aged care and Senior Citizen Centres

Country Fire Authority Stations

regional and rural bus stops

Drive testing was undertaken using three Samsung A12 handsets (commonly used by members of the public) to capture information about network quality for each of the national carriers: Telstra, Optus and Vodafone. Testing combines three measurements of power and quality – RSRP, RSRQ and SINR – and provides a robust methodology acknowledged and respected by the carriers.
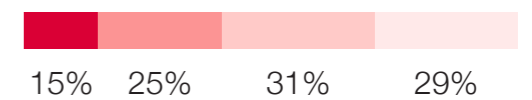
4G network quality

■ Unusable or no coverage   ■ Fair   Good   Strong
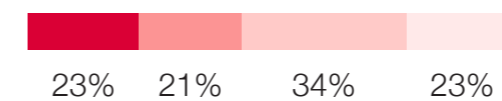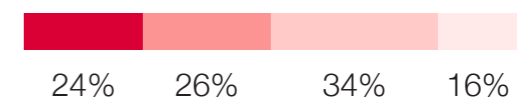
Network quality
(24,493 sites)

25%   21%   27%   27%
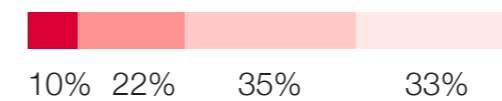
Road network
(4,178 road segments)

15%   25%   31%   29%

Emergency markers
(53 sites)

23%   21%   34%   23%

Water tanks
(74 sites)

24%   26%   34%   16%

Bus stops
(493 stops, regional and rural)

10%   22%   35%   33%

**Points of interest***
(112 sites)

9%   29%   32%   29%
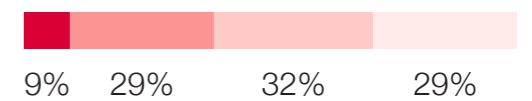
*POIs include community fire refuges; neighbourhood safer places; educational facilities, community centres, aged care, senior citizen centres (excluding urban locations) and CFA stations.

25% of locations tested in Yarra Ranges were found to have **unusable network quality**

Sections of road with 'unusable' or 'no coverage' were concentrated around:

1. Dandenong Ranges

Depth of coverage is impeded by complex topography, despite carriers' maps indicating adequate coverage. Mobile signals regularly jump between towers. This area is extremely prone to natural disasters, including bushfires and severe storms. Telecommunications network failures caused by mains power outages and insufficient battery back-up impeded emergency response efforts following the June 2021 storm events, when emergency services could not communicate with one another and residents had no line out of the impact zone and could not call 000.
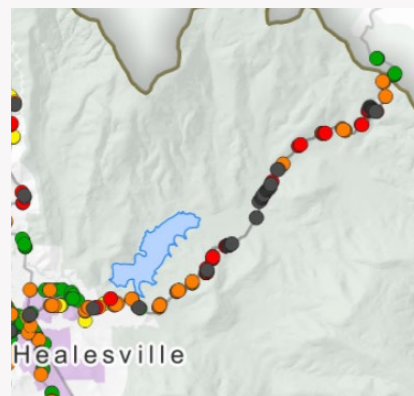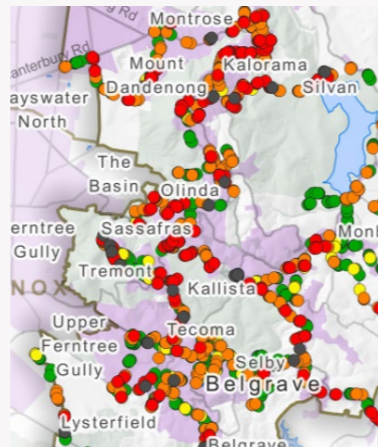

2. **Maroondah Highway** towards Fernshaw and the Black Spur

This is a major tourist route where travellers must have reliable access to mobile signal, particularly in an emergency. A nearby tower has been funded through the Mobile Black Spot Program, however, the mountainous landscape means blackspots remain. Fernshaw is currently not adequately serviced by any carriers.

3. Areas along **Gembrook-Launching Place Road**, toward Beenak and Hoddles Creek

This is a key agriculture area that requires coverage to ensure occupational safety and opportunity for businesses to innovate through smart farming technologies. Beenak and Hoddles Creed are currently not adequately serviced by any carriers.
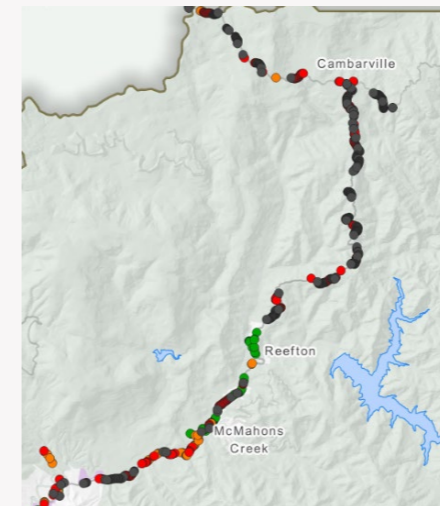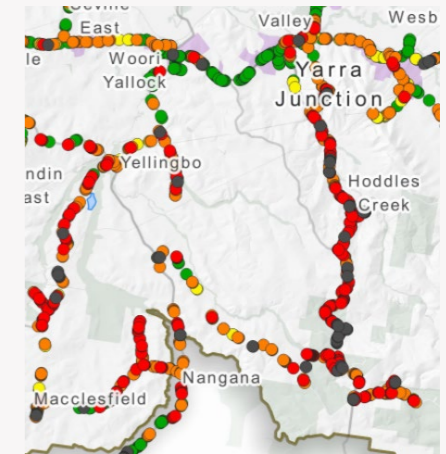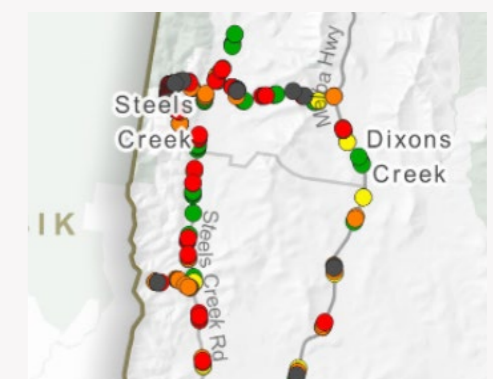

4. **Woods Point Road**, from East Warburton north toward Yarra Ranges National Park

This an area facing severe bushfire risk, where telecommunications infrastructure must account for population and tourism growth over the coming years.

5. Steels Creek

Currently not adequately serviced by any carriers (no usable cellular service).

Telecommunications

Legend:
1. Dandenong Ranges
2. Maroondah Highway
3. Gembrook-Launching Place Road
4. Woods Point Road
5. Steels Creek

4G Combined Networks
- No Coverage
- Not Usable
- Fair/Usable
- Good
- Strong

- Built Up Area
- Public Land
- LGA Boundary

0 5 10 km

Telecommunications
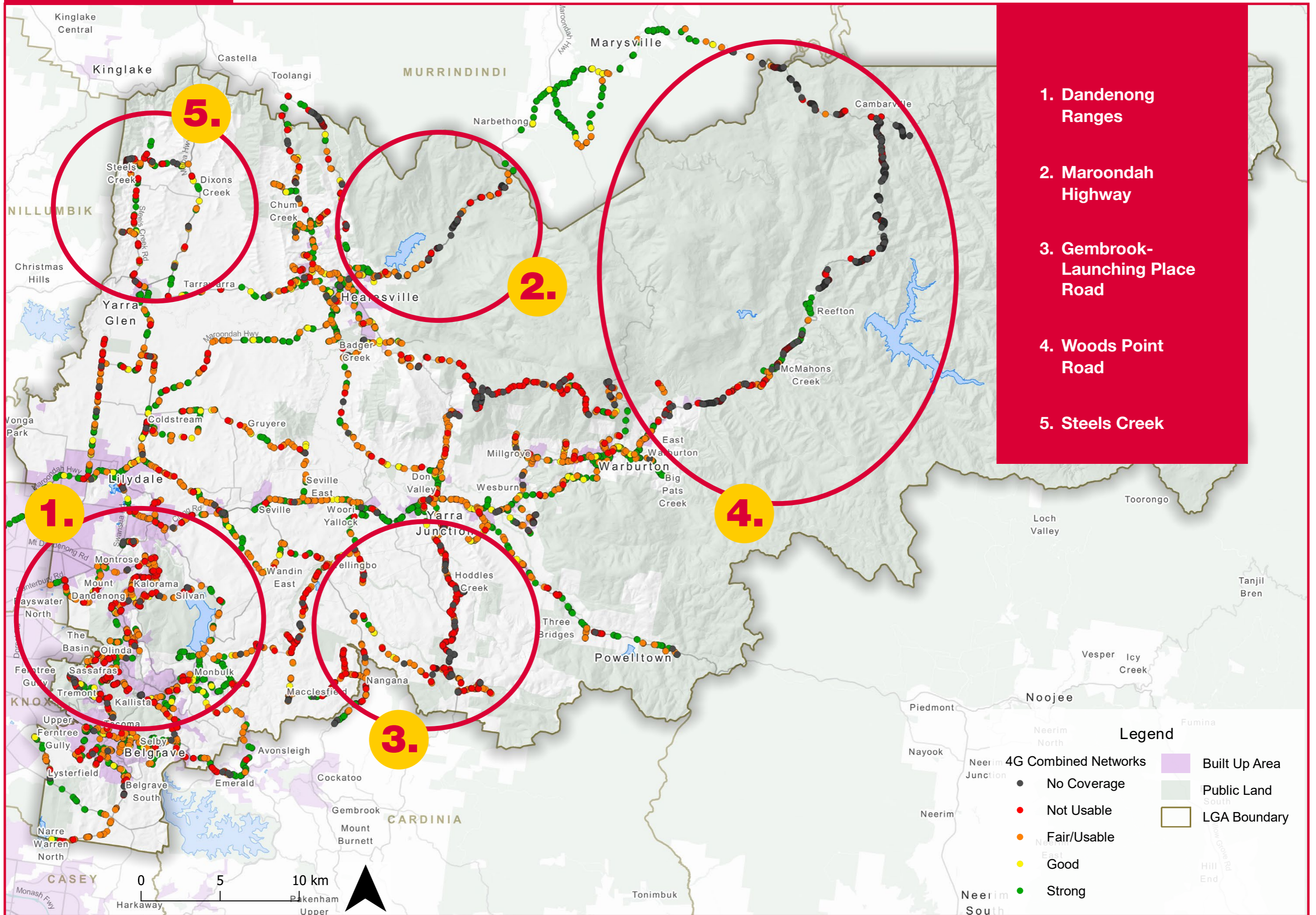
Council has been advocating to the Victorian and Commonwealth Governments for investment in local telecommunications infrastructure.

We've also been engaging with industry stakeholders to share data about local issues and understand what solutions can address the problems we're facing.

What we're asking for:

1. **Improve mobile connectivity** in 5 key areas with low or no mobile service quality: Dandenong Ranges, Hoddles Creek, East Warburton, Steels Creek, Fernshaw.

2. **Upgrade NBN broadband services** from fixed wireless, satellite and FTTN to FTTP in key areas with slow broadband service.

3. **Strengthen telecommunications network resilience** during power outages and emergencies e.g. increased battery back-up at mobile towers, generator power for mobile towers and NBN nodes.

98.4%
Yarra Ranges residents rely on internet for emergency information*
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*Source: Yarra Ranges telecommunications community survey, 2020

4. **Establish telecommunications as an essential service.**
   This would enable a faster response when the system fails, ensure accurate reporting of network issues and require the development of contingency plans. This could prove lifesaving through future disasters.

For more information about Council's telecommunications study and updates on our advocacy, visit:

yarraranges.vic.gov.au/telecommunications

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