Submission – 2021 Regional Telecommunications Review

Terry Brain, 12 September 2021

Declarations for the completion of NBN rollout in 2020, and new ownership arrangements in 2022 for Telstra and Optus infrastructure, provide ideal timing for this Review to introduce major improvements in the reach and quality of rural telecommunications.

This submission seeks adjustments to several Federal programs for improving coverage and competition for telecommunications services to rural communities and highways (see p.4 References for overviews):

- Telecommunications Universal Service Obligation (USO, announced 1999 just prior to Telstra's "T2" privatisation @ 49.9%, and with contracts expiring 2032)
- National Broadband Network (NBN, 2009 and "completed" 2020)
- Mobile Black Spot Program (MBSP, 2014–)
- Universal Service Guarantee for telecommunications (USG, 2018–)
- Regional Connectivity Program (RCP, 2019–)
- Regional Broadband Scheme (RBS, 2020–)

Each of those programs – together with broader grant programs for regional development – have encouraged a steady pace of service improvements for larger regional communities, but not so much for those in rural and remote areas. The numbered suggestions below therefore aim to further improve regional telecommunications outcomes for all Australians, by adjusting regulations and incentives through existing Federal programs.

Increasing coverage and competition through sharing of tower infrastructure

NBN's 2,000 towers can be generalised as being located near towns, to provide a point of interconnection between their wired network and nearby Fixed WiFi subscribers – currently 600,000 of them – with ever increasing competition from mobile data and satellite services. Optus and smaller mobile carriers were also quick to offer Fixed WiFi near highway towns, often with assistance from the MBSP – and probably to the relief of NBN Co. Telstra launched their first Fixed WiFi service with 5G in September 2020, arguing no breach of its non-compete deal with NBN. Given the low incremental cost for mobile carriers to also offer Fixed WiFi from the same towers as their mobile equipment, suggestions for this Review relating to NBN include:

1. Encourage NBN to offer hosting services on their towers for other providers' mobile phone and data equipment, with options for also hosting their Fixed WiFi equipment, and interconnecting to NBN's data network.
2. Provide NBN with a pathway to gracefully reduce and eventually exit its wholesaling of Fixed WiFi services, such as by allowing it to sell those services by region to accredited retail provider/s or mobile carriers. Disruption for subscribers must be minimised, so timing could be aligned with the introduction of newer technology.

Transition to Telstra's new ownership structure for its 8,200 towers portfolio "TowerCo"(aka "InfraCo-Towers", comprising 5,570 mobile towers and 2,630 non-mobile) is expected to complete by Easter 2022. Shareholders were advised in July 2021:

> "TowerCo will turn its focus to opening up the portfolio to other operators and non-traditional tenants. The average tenancy ratio across the portfolio currently stands at 1.34x and TowerCo's commercial team will be laser focussed on driving this up whilst also securing new build contracts, with the company targeting a minimum tenancy ratio of 1.55x on new towers. TowerCo is working on simplifying its processes and pricing to make it easier for the industry to access its available sites…"

Adjustments to existing Federal program requirements could help TowerCo significantly exceed its goals by the end of Telstra's USO Contract in 2032:

3. Encourage all telcos to offer hosting from their towers for competitors' equipment. Such encouragement could include industry assistance towards standardised service agreement/s. Use of such agreements should be subject to government audit, such as with future grant applications and acquittals, and ACMA wireless licence registrations.
4. Priority for grant awards for the remaining rounds of the Universal Service Guarantee (USG) and/or Regional Connectivity (RCP) Programs should be given to new towers into blackspot areas well away from any existing mobile phone tower.

TPG provide a good model for sharing infrastructure, owning only 500 towers amid their 5,600 base stations – albeit with a high proportion of those serving larger urban areas.

The Australian Communications and Media Authority (ACMA) has prepared well for its distribution of 5G licences, but it may need to tighten some policies and procedures, to better support increased sharing over time of regional and rural towers by competitors.

5. ACMA's caps on licences able to be acquired by a single corporation at each spectrum auction should be further refined over time. A cap of 45% for regional lots has been set for the auction in late 2021, and 40% in cities. That difference in caps should be reviewed to better align with community expectations for increased competition and coverage, as a higher priority than spectrum licensing revenue. 45% might allow Telstra more flexibility in upgrading its existing sites, but 40% might allow others to compete better and sooner.
6. ACMA's preparations for future spectrum auctions (5G and 6G) should also account for past performances with sharing of towers with competitors and regional innovators. A licence pool for regional innovators should also be reserved, perhaps with shorter expiry options than the current 15 years.

Responsibility for Australia's major backhaul links and most international links have clearly been with Telstra. Major backhaul trunks seem much more appropriate as an NBN responsibility. For example, many of TowerCo's 2,630 non-mobile towers support long-haul microwave repeaters, with much of their equipment considered by many to be too old:

7. A comprehensive review is appropriate into the re-assignment of those responsibilities either side of the 2032 completion of Telstra's USO Contract. Terms of reference should examine the future of the backhaul links, and what deal/s between Telstra and NBN are appropriate for continuation and/or modernisation of long-distance infrastructure and services.

Adjustments to Grant Programs

The Regional Connectivity Program Round 1 grant awards in June 2021 included $38M for 16 towns to switch from NBN's planned Fixed WiFi or Satellite to FTTP. That represents 32% of the Round 1 budget for all 132 successful projects. It is unclear how many applications were received, or how many did not meet key criteria.

Timing appears to have been impeccable for all 16 towns, given their latter positions in NBN's rollout schedule and the closing date for RCP applications. However, given the declaration by Minister Fletcher in 2020 concerning the completion of NBN rollout, no further towns should be funded for NBN technology switching under the RCP. Instead:

8. Consider a separate grant program focused on encouraging other small towns to switch from NBN Fixed WiFi or Satellite, but book such grants as subsidies to NBN. Such a fund will need careful policy consideration given its likely high demand vs low expectation for SkyMuster and the outer edges of Fixed WiFi. An initial 3-year funding pool of at least $300M per annum is very likely to be received well by rural voters in 2022. Funding for each subsequent Round of grants should be sized in recognition of NBN's achievements against its previously published stretch targets for their own regional upgrades.
9. The funding pools for each Round of the RCP and MBSP should be increased substantially – also to $300M per annum for each program, due to their much higher value to all Australians.

10. Correct the financial reporting (and other records as appropriate) for the Government's FY21 grants to both the RCP and NBN, that is $38M down and up respectively.
11. For similar accounting reasons, grant applications for single site upgrades of NBN technology should be submitted by the site's owner rather than by NBN Co.

Emerging technologies and competitors should also be considered in setting criteria for each new round of Program grants. For example, SpaceX's Starlink performance and coverage paths for Australia are likely to reduce the business cases for very small towns to switch to NBN's FTTP (or FTTC).

12. Priority for grant awards for the remaining rounds of the USG and RCP should be given to projects unlikely to benefit soon from emerging competition or technology. For example, both of the recent grants to Costa Group for their expensive FTTP connections will be hard to justify for others in those districts in Round 2, given the convenient coverage by Starlink's initial foray over Australia.
13. Priority for grant awards for the remaining rounds of the MBSP and/or RCP should also be given towards technology and service innovation that promotes broader coverage for all telcos. For example, Field Solutions Group's recent grants for seven towers in Queensland included trials for its "neutral hosting services" to allow other mobile carriers to share the same base station. Such technology, and its commercial arrangements, are likely to warrant further trialling with a broader mix of technologies over time.

Rationale for the Above Suggestions

Telstra ServCo has 19M mobile phone subscribers, Optus 11M and TPG 6M. TPG own nearly 500 towers, and share over 5,000 others, courtesy of their Vodaphone merger in 2020. Optus and TPG have significant market share of city-based subscribers due to their competitive pricing, while Telstra has long been the only option for regional subscribers, especially those who need to drive and/or value reliability and safety. The time has now come for all Australians to benefit from greater competition and coverage in regional telecommunications:

- Telstra pricing will drift down towards their competitors'
- Increased rural coverage for Optus and TPG subscribers will allow them to travel further without needing to switch to a Telstra service
- Coverage for Fixed WiFi can be increased with mobile coverage, and as regulations allow for NBN
- Rural businesses will have broader access to transformative technologies and service providers
- Fewer barriers to new business opportunities for local IT and AgTech service providers, farming cooperatives and rural Shires.
- Rural families will have new opportunities for employment, remote learning, health, entertainment and government services
- Broader coverage means faster responses to emergencies in rural areas
- The three mobile telcos (and possibly NBN Co) will all be equipped for coordinated response to natural disasters

Terry Brain
(tree-changed retiree from corporate IT services, and aspiring grey nomad)
[redacted]

References

Federal Telecommunications Assistance Schemes since 1999 (just prior to Telstra's "T2" privatisation @ 49.9%)

Scheme (and link to more detail)	Announ-ced	Purpose	Federal Govt Funding	Status & Comments (by this author)

Telecommunications Universal Service Obligation (USO)	1999	• Reasonable access to basic phone and data to all on an equitable basis
		• Originally "awarded" to Telstra, but Minister can appoint other Universal or Regional Service Providers with appropriately limited responsibilities – with any losses shared among carriers
			$100M pa (and $170M from Telcos)	• Contract runs to 2032, but overlapped by USG in 2018 – see below
				• Outcomes of this USO legislation update from 2000 (bottom of USO page) are unclear, but now seem overtaken by USG (below):
				  ○ "… the introduction of competition in the delivery of the USO. This would first take the form of two regional contestability pilots:
				  ○ the Greater Green Triangle of south-west Victoria and south-east South Australia, expanded to include the Central Goldfields and Greater Bendigo …

National Broadband Network (NBN)	2009	• "NBN Co was established in 2009 to design, build and operate Australia's wholesale broadband access network"	$30.4B budgeted (+$7B private); $51B "actual"	• Originally targeting FTTN and Fixed WiFi, with several iterations of political enhancements through 2015 • Separation of wholesale and retail services was hindered by too many disappointed shareholders after Telstra's privatisation completed in 2008 (T3)
Mobile Black Spot Program (MBSP)	2014	• A competitive grants program to increase mobile phone coverage. • Applications are assessed on cost, community demand and technological innovation.	$380M (of $875M to date for 975 base stations co-funded with state & local governments and Telcos)	• 5,000 base stations targeted by program, of 13,000 black spots nominated by communities to 2018 • Current Round 5A includes trialling of "neutral hosting services" (7 Qld towers), allowing carriers to share the same base station under commercial arrangements with the neutral host provider (Field Solutions Group) • 63 blackspots are listed in the MBSP database within Corangamite Shire. Past grant awards are listed for three Rounds only.
Universal Service Guarantee for telecommunications (USG, its Fact Sheet and Summary Report)	2018	• An update to USO, targeting all Australian homes and businesses for access to both broadband and voice services, regardless of their location.	Nil (but USO funding continues)	• An overdue catch-up with demand • (Arguably:) over-reliant on NBN and Telstra for the reach and affordability of their "fringe" services • Contestability options for USG is discussed at p.19 of its Summary Report – in a way that gives some

Scheme (and link to more detail)	Announ-ced	Purpose	Federal Govt Funding	Status & Comments (by this author)
		• The USG will use the NBN to deliver broadband services and will continue to use Telstra's existing copper and wireless networks in rural and remote Australia for the provision of voice services in nbn fixed wireless and satellite areas.		hope for potential regional telcos and innovators, but without budget or regulation • Further USG regulation is needed to encourage investment outside areas able to be served effectively by Telstra and NBN, eg through additional points of connection and back-haul for regional service providers • Telstra's USO contract has become known as its "copper continuity obligation" (CCO) and remains outside NBN
Regional Connectivity Program (RCP)	2019	• Another competitive grants program "that uses a place-based approach to target investment to provide economic opportunities and allow full participation in the digital economy for regional communities and businesses"	$117M for 132 projects to June 2021 (Round 1, incl. GST)	• Often expands the technology scope of an MBSP project • The Draft Guidelines for the RCP elicited generally constructive responses (on that same page) • The list of initially funded projects (at June 2021, at bottom of that page) includes some contentious decisions
Regional Broadband Scheme (RBS)	2020	• A levy on most higher speed NBN **wired** connections (@ $7.10/month) to offset NBN's losses from its Fixed Wireless and Satellite services – by approx. 5% of their estimated $10B loss over 30 years • The scheme has a range of exemptions until 2025 to promote competition between retailers, but as at 30 June 2021, approx. 6M customers qualified for this levy (75% of total 8.2M 100Mbps subscribers) => $511M current annual levies > estimate $40B levies over 30 years vs $800B costs	Nil	• NBN losses from Fixed WiFi and SkyMuster are likely to increase unless they are further protected via regulation, eg: ◦ Competition from mobile phone (voice and data) is increasingly more popular ◦ SpaceX's Starlink service will become very attractive along each of its coverage paths ◦ Fixed Wireless upgrades to meet customer expectations for performance, coverage and timeliness will be very challenging • NBN are likely to appreciate regulation that will enable their graceful exit from such services, while increasing their focus on interconnections and backhaul

Ministerial Responsibilities

While further step improvements in Regional Telecommunications now appear within reach – thanks to recent milestones with NBN and Telstra, demand increases, technology improvements and investments – recent Ministerial changes and the 2022 Federal election might hinder advances beyond the Review, eg:

- The 2021 Regional Telecommunications Review "Issues Paper" – https://www.rtirc.gov.au/ (link in first paragraph) – mentions that the Committee will report to the Minister for Regionalisation, Regional Communications and Regional Education. That was Bridget McKenzie – with an influential portfolio – but she is now Minister for Emergency Management and National Recovery and Resilience.
- The 2021 Review itself was announced by Mark Coulton (now Minister for Regional Services, Decentralisation and Local Government, and formerly Regional Communications from Feb 2020). Still relevant, but how influential?
- Bridget McKenzie's response to the 2018 Review (when she was Minister for Regional Services, Sport, Local Government and Decentralisation) paved the way for several telecommunications development programs that are now underway.
- The Minister for Infrastructure, Transport and Regional Development (Barnaby Joyce) is another potential stakeholder – but how effective, given his other roles: Deputy PM and media wrestling?
- Minister for Communications, Urban Infrastructure, Cities and the Arts (Paul Fletcher) will be lobbied relentlessly by NBN and Telstra for defence of their large and expensive assets

Major Telecommunications Players

NBN Co's Corporate Plan 2021
https://www.nbnco.com.au/content/dam/nbnco2/2020/documents/media-centre/corporate-plan-2021/nbnco-corporate-plan-2021.pdf
… which mentions their Fixed WiFi network of 2,200 towers and 13,000 cells.

Telstra (now Telstra ServCo)
… has sold 49% of its InfraCo-Towers division (aka TowerCo, with approx. 8,200 towers, including 5,570 for mobile phone/data) for $2.8B to the Future Fund, Commonwealth Superannuation Corp and Sunsuper. The divestment is due to complete by Easter 2022.
https://www.towerxchange.com/what-happened-with-the-telstra-infraco-towers-sale-and-whats-next-for-the-australian-market/
Currently announced plans:

- only $75M is committed for new towers – even some LNP backbenchers are unhappy with recent uses of Federal grants by Telstra
- "A 15-year MSA is in place with Telstra as anchor tenant and Infraco Towers will turn its focus to opening up the portfolio to other operators and non-traditional tenants. The average tenancy ratio across the portfolio currently stands at 1.34x and the towerco's commercial team will be laser beam focussed on driving this up whilst also securing new build contracts, with the company targeting a minimum tenancy ratio of 1.55x on new towers. Infraco Towers is working on simplifying its processes and pricing to make it easier for the industry to access its available sites and is understood to have already selected a site management system to better manage its asset base."
- "Telstra's ServeCo will own and operate the radio access network, mobile spectrum, and customer service functions"
- Andy Penn to HoldCo shareholders: "[TowerCo] is just the passive infrastructure in the towers," he said, pointing out the telco would retain control of the active parts of the mobile network such as its radio access equipment and its prized spectrum assets. "The second thing is that Telstra is a strong anchor customer to InfraCo Towers, so there is certainly recognition of that. And then, thirdly, one of the attractions to this consortium is their desire for and understanding of our continued network leadership and preserving that into the future."

Mobile phone subscribers to June 2021 (various sources)

Telstra ServCo	19M
Optus	11M
TPG	6M

Mobile Tower Ownership to June 2021 (various sources)

Telstra	5,570	(plus 2,630 non-mobile)
Axicom:	2,000	
Optus:	2,000	(but scheduled to announce their divestment in September 2021)
BAI:	750	
TPG:	500	(plus 5,200 base stations on other towers)
Vertel:	200	
TX:	70	
Others:	800	eg Insight and Stilmark

Other References:

Mapping system for Communications Databases (eg Mobile Phone base stations and ACMA wireless licensing)
Mobile Phone Blackspot Program – map of database and funded base stations (Rounds 1, 2 & 4)
https://beta.nationalmap.terria.io/ ← Corangamite Shire's first Federally funded base stations appear to have been announced in Round 5A

Mobile phone coverage maps
https://www.whistleout.com.au/MobilePhones/Guides/who-has-the-best-mobile-coverage
https://www.telstra.com.au/coverage-networks/our-coverage ← shows 5G coming to Timboon (maybe via Scotts Creek in June 2022?)

Corangamite Shire recent priorities for mobile coverage (Noorat is next)
https://www.corangamite.vic.gov.au/Council/News-and-Media/Latest-News/Better-mobile-service-for-Ecklin-South-and-Scotts-Creek

ACCC 2016 report on telco competition and pricing changes
https://www.accc.gov.au/system/files/ACCC%20Telecommunications%20reports%202014%E2%80%9315_Div%2011%20and%2012_web_FA.pdf

Introducing US Government subsidies for Rural Broadband
https://www.wsj.com/articles/u-s-government-set-for-greater-role-in-how-americans-access-internet-11628674423?mod=djemTECH

Telecommunications Association Journals
https://jtde.telsoc.org/index.php/jtde

Regional Connectivity Program—Extract of Round 1 funded projects announced June 2021

Applicant	Project name	Technology type	Location	State	Project description	Grant amount (GST inclusive)
NBN Co	Fixed Wireless to Fibre to the Premises Technology Change: Timboon	Fibre Broadband	Timboon	VIC	The project will upgrade the NBN access technology in the Corangamite town of Timboon from Fixed Wireless to Fibre to the Premises. The upgrade will provide improved connectivity to support growth opportunities in tourism and hospitality, as well as existing dairying, forestry and lime production operations.	$2,555,354
NBN Co	Fixed Wireless to Fibre to the Premises Technology Change: Birregurra	Fibre Broadband	Birregurra	VIC	The project will upgrade the NBN access technology in the Colac-Otway Shire town of Birregurra from Fixed Wireless to Fibre to the Premises. The upgrade will provide improved broadband connectivity to encourage migration to the area and to support the uptake of business technologies for the tourism, health and agriculture industries. Increased connectivity will also enable improved access to education and telehealth services in the community.	$5,781,665
Telstra	Scotts Creek	Mobile Voice & Data	Scotts Creek	VIC	The project will deploy a new Telstra 4GX macro cell base station in the Corangamite Shire community of Scotts Creek. The new base station will provide improved mobile connectivity to support the uptake of new agricultural and business technologies in a significant dairy farming and agritourism region. Improved mobile services will also enable increased access to telehealth and education services, as well as public safety coverage in a high-risk bushfire area.	$207,144
Telstra	Ecklin South	Mobile Voice & Data	Ecklin South	VIC	The project will deploy a new Telstra 4GX macro cell base station in the Corangamite Shire community of Ecklin South. The new base station will provide improved mobile coverage along a transport corridor within the significant dairy region, increasing supply chain efficiency and freight safety. Improved coverage will also support the uptake of new agricultural and business technologies, increased public safety coverage in a high-risk bushfire area, and access to telehealth and education services for the growing community.	$299,166
Field Solutions Group	R.A.N (Regional Australia Network): Paroo-Bulloo	Fixed Wireless Broadband	Paroo, Bulloo	QLD	The project will deploy a fixed wireless network in the Paroo and Bulloo Shires. The network will extend high-speed broadband connectivity into areas with limited existing coverage, supporting the uptake of new agricultural and business technologies, as well as providing improved communications along two significant tourist routes.	$685,043

Applicant	Project name	Technology type	Location	State	Project description	Grant amount (GST inclusive)
Field Solutions Group	R.A.N: Bourke	Fixed Wireless Broadband	Bourke	NSW	The project will deploy a fixed wireless network in the Bourke region of North Western NSW. The network will extend high-speed broadband connectivity into areas with limited existing coverage, enabling the uptake of new agricultural and business technologies in an irrigated agriculture and wool growing area. The project will also enable greater access to telehealth and education services.	$589,712
Field Solutions Group	Satellite Backhaul Broadband Services for NT Remote Communities	Satellite Broadband	Arrawerr, Mungkarta, Gan Gan, Wandawuy	NT	The project will deploy a satellite backhaul broadband solution servicing the remote communities of Arawerr, Gan Gan, Mungkarta and Wundawuy. The service will provide pay-as-you-go broadband data to residents, enabling improved access to telehealth and education services.	$574,398
Barcaldine Regional Council	Alpha Satellite to Fibre to the Premise Technology Switch	Fibre Broadband	Alpha	QLD	The project will upgrade the NBN access technology in the Barcaldine Shire town of Alpha from Sky Muster to Fibre to the Premises. The upgrade will support the operations of local businesses and community organisations, as well as improving access to telehealth and education services for residents.	$3,181,572
Findley Farms—Etta Plains AG Pty Ltd	Etta Plains Station connectivity project	Fixed Wireless Broadband	Etta Plains	QLD	The project will deploy a fixed wireless broadband and public Wi-Fi coverage to the Etta Plains area near Julia Creek. The network will enable the uptake of new agricultural and business technologies for a number of cattle stations and irrigators, as well as improving emergency communications in a flood-plain area.	$152,250