Australian Government
Department of Infrastructure, Transport,
Regional Development, Communications and the Arts

Submission on the Productivity Commission's Interim Report on Australia's Data and Digital Dividend

Background on regional telecommunications and initial comments

November 2022

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Context

This paper provides background information for the Productivity Commission in response to its interim report on *Australia's data and digital dividend*, and some initial comments on particular issues it raises in relation to the use of data, the delivery of services, and the allocation of funding. It discusses the general approach Australia has taken to providing people in regional, rural and remote Australia with access to telecommunications services, including commercial private sector investment and competition, regulatory safeguards, government business enterprises, and broad and targeted funding programs.

Australian Governments have long recognised the importance of access to telecommunications for people in Australia, wherever they live or work. As telecommunications technologies and their functionality have evolved, so have people's reliance on, and expectations of, the services available to them. The role of telecommunications is arguably greater for people in regional, rural and remote areas where physical access to family, work and services may be hindered by distance.

In these circumstances, access to telecommunications is not just vital for social, economic, cultural and political participation in Australian life, but can literally be a lifeline for people. The Department is therefore committed to people having access to high quality reliable and secure telecommunications services. It is mindful of the need to provide continuity of services while looking at better ways to deliver services for the future.

The matters in the report are of inherent interest to the Department. We welcome the opportunity to discuss these further with the Commission.

Overarching approach to service delivery

The default approach to the supply of telecommunications in Australia is that telecommunications services are provided on a commercial and competitive basis, in response to market demand. As the Commission notes (p.33), commercial decisions have underpinned competitive investment in infrastructure and services in a range of areas, including in Australia's world-leading mobile networks, backhaul infrastructure, data centres, and some rollouts of fixed access technologies like fixed-line and fixed wireless.

Against this, it has long been recognised that many areas of Australia are 'thin markets' and not commercial to service at prices that would be generally affordable because of the high costs of deployment and limited customer revenues. In this context, while it can be argued that all people in Australia could access services via satellite commercially in the absence of other, lower cost alternatives, the cost would be well above prices available in metropolitan areas and unlikely to be affordable to many people. Unaffordability would deny people and the wider community the benefits of telecommunications that the Commission has noted and the social and economic inclusion telecommunications helps provide.

In recognition of this challenge Governments have made a range of interventions so services people consider increasingly essential are available to them. This includes the creation, historically, of government entities to deliver services, such as the Postmaster-General's Department, Telecom/Telstra, AUSSAT and, more recently, NBN Co, to deliver services. Governments have implemented regulatory safeguards for access to basic fixed services – voice and payphone services under the Universal Service Obligation (USO) and broadband under the statutory infrastructure provider (SIP) regime. Governments have provided funding, both on a broad basis for universal access to basic services, as well as targeted funding to address more localised needs.

Universal service provides a baseline but does not cover all things. For example, it does not cover mobile services, given the costs and difficulty involved in providing mobile coverage to all premises in Australia, let alone all of the Australian landmass. Nor does it provide access to the highest broadband speeds, or to certain types of services such as services to improve farm or business productivity and efficiency. To do so would involve extremely high costs to provide products that may be little used by most consumers. Governments have therefore used targeted funding programs to address pressing needs in these areas, particularly where there will be commensurate social and economic benefit, noting that funding is not unlimited and there may

never be sufficient funding to provide all premises in Australia with the highest levels of telecommunications access.

Use of data

Like the Commission the Department seeks to make maximum use of relevant data in policy and program development and administration. While we acknowledge the value of qualitative data such as that collected by three-yearly Regional Telecommunications Reviews[1], Regional Development Australia (RDA) and Infrastructure Australia, we do think it needs to be considered along with more quantitative data available from industry in public reporting and that is available to the Department from industry and regulators. This data goes to service availability and performance. We consider we have a good understanding of the services available to premises and, in many instances, the services connected to premises. Scope exists to seek more data from industry if it could serve a useful purpose but the cost versus utility of doing so needs to be considered.

The maps at Attachments A-E give an indication of the level of geospatial analysis the Department is able to undertake routinely. Attachments C and D compare the RDA map of poor mobile coverage with actual mobile coverage and NBN coverage.

While assumptions about take-up of services can be derived from industry supply data, the inability to correlate such data with other household data, such as that collected under the Census, limits our insights into issue of take-up. In this context, there is a need to supplement the available data with commercial survey data.

Universal service arrangements

The Commission refers to the 'Universal Service Guarantee' (USG) in its interim report. The USG refers to arrangements covering universal access to baseline broadband as well as voice and payphones, reflecting changes in industry structure and consumer preferences. Under the USG, access to voice and payphones services continued through incorporation of the long-standing USO, while access to baseline broadband was delivered over the NBN (or another carrier) supported by the SIP regime.

Importantly, in the context of the Commission's interim report, reform to the delivery of the USG would need to include the delivery of voice services as well as broadband. Conversely, the USG does not include the types of service provided under the Mobile Black Spot Program (MBSP) or the Regional Connectivity Program (RCP), which by design, supplement the delivery of baseline services under the USG.

While we appreciate and understand the Commission's focus on broadband and mobile solutions, it is important to recognise that any new universal service delivery model does need to take account of the provision of voice services, including for those who may only be voice service customers. While the number of users of fixed line voice customers has been falling[2], our data indicates there are still over 3.3 million fixed voice customers nationally, with around 400,000 in rural and remote areas.[3] In our experience these customers are often elderly customers and/or those in remote areas for whom reliable connectivity is especially important. Recognition of voice as a service is important as it goes to what would be delivered where and how under the type of delivery mechanisms, like tendering, the Commission posits, as well as the consequences of doing so, including universal access to a standard level of service or 'a patchwork quilt'.

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[1] https://www.infrastructure.gov.au/sites/default/files/docuements/2021-rtirc-report-a-step-change-in-demand.pdf
[2] www.acma.gov.au/publications/2022-10/report/how-australians-make-voice-calls-home
[3] These numbers related to CSG services provided by Telstra, with CSG service being a common proxy for basic fixed voice services.

Universal access to voice

Fixed voice services are provided by a range of providers on a commercial basis across Australia, typically leveraging the NBN or Telstra copper network, and often as an add-on to a broadband service. However, as discussed below, mobile voice services are also supplanting fixed voice services in many areas, and are being preferred by consumers as their primary voice service.

As a safeguard, where it would not be commercial to provide a fixed voice service, the *Telecommunications (Consumer Protection and Service Standards) Act 1999* (TCPSS Act) includes the USO. The USO provides for all people in Australia to have reasonable access to a standard telephone service (voice services) and payphones, wherever they live or work. Telstra is the designated primary universal service provider in Australia. Its statutory obligations include to supply standard telephone services on reasonable request, and to supply, install and maintain payphones.

The USO is supported by a 20-year contract between the Commonwealth and Telstra: the Telstra USO Performance Agreement (TUSOPA). The TUSOPA extends from 2012 to 2032. Under the TUSOPA, Telstra is paid for delivering its statutory obligations to supply standard telephone services and payphones. Telstra must also maintain existing copper connections outside the NBN fixed-line footprint, except in limited circumstances. This is known as its copper continuity obligation (CCO).

Telstra receives $270 million each year under the TUSOPA, divided into $230 million to deliver standard telephone services and $40 million to supply, install and maintain payphones. The funding is partly provided by a Commonwealth Budget allocation of $100 million per annum, with remaining funding recovered from larger telecommunications carriers through the Telecommunications Industry Levy (to which Telstra itself is the major contributor).

Annual USO funding is significant and exceeds that available under the MBSP and RCP. Its effect is central to the long-term delivery of better telecommunications services in regional Australia.

Importantly the USO requires Telstra to provide voice services nationally, including in urban areas, noting there may be customers in urban areas that are not attractive to service, just as there are in regional, rural and remote areas.

Under the statute, Telstra is free to choose the technology it uses to deliver the USO. It has contracted with NBN Co to use its fixed network where that is available as part of the rollout of the NBN and Telstra's migration of customers to it. Telstra also entered into a twenty-year contract with the Commonwealth in 2011 to continue to operate its copper network from July 2012 outside the NBN fixed line network (the 'copper continuity obligation' or CCO noted above) in recognition of consumers' reliance on their copper lifeline services and concerns when the contract was negotiated about then new alternative delivery platforms such as NBN fixed wireless, satellite and growing mobile networks. Outside NBN Co's fixed line footprint, therefore Telstra continues to operate its own fixed line infrastructure and the funding provided to Telstra is generally considered to subsidise its operation of those facilities and the services they deliver, even though its USO is national.

The Department has regularly published data on services provided under the USO, albeit with a focus on areas outside NBN Co's fixed line footprint. As noted above, the most recent data (30 June 2022) shows that Telstra provided around 3.3 million fixed voice service nationally, using both the NBN and its own infrastructure. Telstra infrastructure supported around 400,000 fixed voice services outside the NBN fixed line footprint.[4] Most of these Telstra services were provided over copper landlines, but around 18,000 voice services were provided using terrestrial wireless technologies and around 900 voice services were provided using satellite.

The Department has access to service information for policy development purposes. A high level map, based on such information and published in 2018, is provided at Attachment E to illustrate to the Commission the data available to the Department.

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[4] As per reference to CSG services above.

The Commission expresses concern about the lack of data about service performance. The technical parameters of the voice services provided under the USO are based on the voice service Telstra has historically provided and were codified in the Communications Alliance's Industry Code ACIF C519:2004 *End-to-end Performance for the Standard Telephone Service*. The services should meet the standards specified. Telstra can monitor performance. That said, performance can vary, but where this occurs customers can lodge a complaint with a view to services being provided at the required level.

Aside from the inherent technical quality of the voice service provided, a customer's experience is determined by a range of other metrics including the ability to contact the provider or 'contactability', connection timeframes, service availability, fault levels, fault repair times and appointment keeping. These matters are covered by a range of regulations, including the Customer Service Guarantee, Priority Assistance and Network Reliability Framework. These go to the quality of the service provided and would go to characterising the delivery outcomes in any tendering process as suggested by the Commission. Such requirements, as well as operational needs, mean a wide range of performance data is collected by Telstra and is available to regulators and policy makers if needed.

In December 2021 new licence conditions were placed on Telstra requiring it to report publicly and to the Department on the matters noted above. Telstra must report to the Department every quarter at the local exchange level on around 80 performance metrics[5].

Universal access to broadband

The NBN was announced in 2009 and responded to three main concerns, that were reflected in the original Request for Proposals. Firstly, higher-speed broadband was only available in limited areas, and not generally available at all outside metropolitan areas. The NBN was intended to provide access to higher-speed broadband for all people in Australia, beyond what was available using ADSL2. The minimum peak speed to be delivered by the NBN, of 25/5 Mbps, derives from this objective, although the NBN can generally deliver much higher performance, on fixed line and fixed wireless. Second, the NBN responded to concerns about the integrated supply of retail and wholesale services by the dominant provider, Telstra, which had been seen as delaying access for alternative providers, and therefore limiting competition and the benefits that might have been expected from it. Third, it was seen as a means of delivering better broadband services at nationally uniform prices.

Outside the fixed line footprint it was envisaged that NBN Co would use fixed wireless technology for around 6% of premises and satellite for the remaining 2% of premises.

The Commission discusses the suitability of telecommunications technology (p.35) at particular locations. Wireless technologies (fixed or mobile) can service fixed premises, but clearly fixed (wireline) technologies cannot service customers that want to be mobile. That said, while wireless technologies can service a wider range of scenarios they are subject to capacity constraints driven by the radiocommunications spectrum available. However, the fundamental issue in technology choice is the cost relative to the benefit. This drives investment in infrastructure by network operators, as opposed to consumer choice of solutions which depends on the solutions available to them, which is clearly dependent on the technologies deployed by operators.

In theory, fixed lines, say fibre-to-the-premises (FTTP), could be provided to all premises in Australia. Similarly, in theory, mobile coverage could be provided across the whole of the Australian landmass (setting aside radiocommunications quiet zones and geographic anomalies), noting covering the entire land mass is much more challenging than servicing individual premises. As the Commission will appreciate, however, the issue is the cost of doing so relative to the benefit. This is particularly true with mobile coverage as universal mobile coverage, in its literal sense, would imply covering huge tracts of land that are not only unpopulated but are

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[5] The public reports (which include a subset of performance metrics) can be found at: www.telstra.com.au/consumer-advice/customer-service/regional-service-performance (as at November 2022, Telstra has published three quarters of data spanning January-March, April-June and July-September 2022).

rarely (if ever) visited. In such sparsely populated areas, satellite, while perhaps expensive per service can provide a relatively cost-effective solution, for both fixed and mobile communications.

Broadly, the approach taken, including with the NBN is to use the technology that delivers the service level required, and additional capability where possible, for the least cost. Thus, fixed line is used in most instances where population densities are highest. Where the cost of providing fixed line would exceed that of using fixed wireless, fixed wireless is then the preferred solution, and then when the cost of fixed wireless would exceed the cost of satellite, satellite is the preferred solution. As a result of this, the average cost of providing fixed wireless and fixed satellite solutions is typically higher than the average cost of providing fixed line solutions in urban areas. However, the point of comparison should be the net cost of providing fixed line solutions to premises otherwise serviced by NBN fixed wireless or satellite solutions. In the case of NBN Co, as for other operators, technology choice is an operational decision of the company on commercial grounds. That is, service delivery is effectively technology agnostic, noting the initial assumptions about the broad mix of fixed, fixed wireless and satellite technologies.

The rollout of the NBN has included NBN Co deploying broadband to areas where provision of such services overall was and is non-commercial, particularly in rural and remote areas. The uncommercial areas served by NBN Co are understood to be those areas served by fixed wireless and satellite. The subsidies required to provide these services have been part of NBN Co's business case since its inception, first as an implicit cross subsidy within NBN Co's pricing and now explicitly funded through the operation of the Regional Broadband Scheme.

Regional Broadband Scheme

The Regional Broadband Scheme (RBS) commenced in January 2021, with the first distribution of funds occurring in June 2022. The RBS is a transparent funding mechanism to fund the net losses NBN Co incurs in providing fixed wireless and satellite services. Under the RBS, all qualifying broadband lines provided by NBN Co and other carriers who meet the criteria were levied $7.10 per month from 1 January 2021 (with the levy indexed to CPI). This provides an annual subsidy for NBN Co's fixed wireless and satellite networks, of which NBN Co itself contributes about 95%.

Additional NBN measures

In June 2022 the Government provided a grant of $480 million to upgrade NBN Co's fixed wireless network. As part of this upgrade all premises in the fixed wireless network will be able to access faster busy hour speeds, and premises in the satellite footprint will have access to greater average data limits and product inclusions. The Commission notes this funding was awarded without a competitive process (p.39). The funding was one of the Government's election commitments[6] and had bipartisan support. As the Commission notes, demand for services continues to evolve and networks need to evolve with it – that is, networks continue to require upgrades, even where they are non-commercial to operate. The Government considers the upgrade of the NBN fixed wireless network provides value for money given the investment to date in the network and the incremental cost of upgrading it. This needs to be compared with the full cost of a new or number of new networks to provide the services involved. The Government recognised this is an investment providing services in a non-commercial context and so the funding is provided as a grant, not equity.

Similarly, on 20 October 2022 the Prime Minister announced the Government would provide a further $2.4 billion in equity in the October 2022 Budget to enable NBN Co to expand FTTP to 1.5 million premises by 2025.[7] Around half this amount will be directed to premises in regional Australia. Again, this is in line within Government's election commitment to provide a superior grade of service to these customers. Again, given the investment to date in the network and the incremental cost of upgrading it and the other options available, the Government considers this is a value for money investment. The Government has assessed the upgrade as a commercial investment and therefore it is being funded through equity, not a grant.

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[6] www.alp.org.au/policies/better-connectivity-for-rural-and-regional-australia-plan

[7] https://minister.infrastructure.gov.au/rowland/media-release/albanese-government-delivers-major-nbn-boost-2022-23-federal-budget

SIP regime

The SIP regime took effect on 1 July 2020 to legally underpin access to high speed broadband services for people across Australia. It is contained in Part 19 of the *Telecommunications Act 1997*. Under the Act, NBN Co is the default SIP for Australia, reflecting its role in the market. However, the SIP regime provides for alternative carriers to be the SIPs for the geographic areas where they deploy telecommunications networks, largely in new developments where these carriers have been contracted. This recognises that there is a competitive market in Australia for the provision of telecommunications networks in new developments.

There are currently 26 SIPs in addition to NBN Co (so 27 in total) with the 26 alternative SIPs responsible for over 2,000 service areas, mostly in cities or regional centres.

The key obligations on SIPs are to connect premises in their service areas to their telecommunications networks, and supply wholesale services, on reasonable request from a carriage service provider (CSP) on behalf of an end-user at premises within the service area. The wholesale services must allow the CSP to supply 'qualifying carriage services', which are broadband services with peak download and upload speeds of at least 25/5 Mbps. On fixed-line and fixed wireless networks, the wholesale services SIPs supply must also enable retail providers to supply voice services. SIPs must also publish the terms and conditions on which they offer to connect premises and supply wholesale services to CSPs.

SIPs' rollouts in their service areas do not receive Government subsidy (such as under the USO). SIPs compete to invest in new developments on the basis that these are commercially viable investments.

While the NBN is the primary vehicle for the delivery for baseline broadband nationally through its creation as a government business enterprise, the SIP regime provides a regulatory safety net. It also allows competing providers to fulfill this role where they contract with developers to provide SIP services.

The Commission may also wish to note that the SIP regime also supports the provision of telecommunications in new developments, along with Part 20A of the *Telecommunications Act 1997* (which provides for the installation of passive infrastructure like pit and pipe) and the *Telecommunications in New Developments* policy, which provides guidance to developers on their responsibilities.[8]

Delivery of a universal outcome

Together with the USO, the NBN and the SIP regime provide people across Australia with access to fixed baseline voice, and now broadband services, at their premises, upon reasonable request and payment of normal commercial charges. As such they provide universal and equitable access to basic telecommunications services that most people now consider essential in everyday life. While the networks used to provide these services may often support other higher quality services (like faster broadband), their fundamental objective is to make a basic level of service available to all people as a safety net. That the arrangements are directed to people's premises (whether residential, business, government or other), both reflects the historical reality that telecommunications were originally provided on a fixed basis, rather than mobile, because that is what the technology allowed, and the ongoing reality that most people still want and have fixed connections at their premises (for broadband if not voice) because fixed services offers superior service (for example, in terms of data allowances and reliability).

We recognise, however, that people across Australia are expecting more from their telecommunications services, particularly in terms of mobility and greater data capability, and this is set to accelerate, for example, with the development and take-up of new applications like smart homes and offices, artificial intelligence, and augmented and virtual reality. The perennial challenge for policy makers is how to meet these expectations in the most cost-effective manner. In more densely populated commercial markets, competitive, commercial private sector investment can largely be relied upon to provide such services, as evidenced, for example, by the rapid rollout of 5G and even competing fixed line networks in some localities. However, we recognise, as does the Commission, the challenge is how to provide people in Australia beyond the frontier of

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[8] www.infrastructure.gov.au/TIND

commerciality with these services on an affordable basis, in line with those available in commercial urban areas, if only for reasons of equity and inclusion, if not the economic and social benefits they deliver. Providing access to such additional services is currently addressed through targeted funding discussed in the next sections, with access to mobile services being the prime example.

Mobile services

As discussed above, the USO, NBN and SIP provide all people in Australia with access to voice and broadband, but do not deliver all services, such as mobile services and some more sophisticated services for farms and businesses, like faster broadband and support for Internet of Things (IoT) services.

There are over 30 million mobile services in operation in Australia and around 8.5 million fixed line services. Mobile devices and services are heavily used by Australians given their added convenience in providing ready communications on the move, as well as in the home or workplace. In the home or workplace, however, those mobile devices may be accessing the fixed network by Wi-Fi, providing mobility in the home but with the fixed line supporting higher performance and reliability than might otherwise be the case.

Historically, most mobile coverage has been provided commercially by the three competing mobile providers - Telstra, Optus and TPG (formerly Vodafone). Mobile network coverage, often from the three carriers, is generally available in cities, towns and older suburbs, with the population densities to support it, and can be absent in rural and remote areas with lower population densities or fewer visitors. Increasingly, however, people expect to have coverage whether they are at home or travelling, which may often be in areas where mobile coverage is not commercially viable.

As recently reported by the ACCC, Telstra provides mobile coverage to around 99.5% of the population and 2.5 million km^2 of the land mass, while Optus and TPG provide mobile coverage to 98.5% and 96% of the population respectively.[9] Optus' mobile coverage[10] is estimated to be around 1.5 million km^2, while TPG's is estimated to be around 760,000 kms^2.

Mobile Black Spot Program (MBSP)

The MBSP is a targeted grants program that helps subsidise the cost of deploying new mobile infrastructure into areas that are otherwise uncommercial for the private mobile network industry. The objectives of the program are to improve mobile coverage and competition across Australia.

Funding is awarded using a competitive grants process where mobile network operators (MNOs) (such as Telstra, Optus and TPG) and infrastructure providers (such as BAI, and now Amplitel, Indara and OMERS) are invited to come forward with proposals to deliver new coverage in areas with limited or no existing mobile coverage. Other than in some specific instances, locations of proposals are identified by the applicants.

All proposals are competitively assessed on a proposal-by-proposal basis against the assessment criteria published in program guidelines, which include coverage benefits and value for money considerations, and funding is awarded by the Australian Government accordingly. The assessment process uses coverage information provided by MNOs and geospatial information systems to assess the coverage benefits of each proposal.

The assessment process is undertaken by the Department and reviewed by an external probity adviser to assess its consistency and compliance with the program guidelines, Commonwealth Grants Rules and Guidelines and general probity principles.

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[9] ACCC, Preliminary Views on Telstra-TPG Agreement, p.5, at www.accc.gov.au/public-registers/mergers-registers/merger-authorisations-register/telstra-corporation-limited-and-tpg-telecom-limited-proposed-spectrum-sharing

[10] Telstra submission to ACCC Mobile Infrastructure Inquiry, p 25, https://www.accc.gov.au/system/files/Telstra_39.pdf

The MBSP includes co-location provisions to encourage competition outcomes at funded sites. This includes: requiring funded MNOs to provide other MNOs with the opportunity to participate in the pre-design stage at viable sites; enabling these base stations to be designed to support co-location requirements; technical specifications agreed in advance between the MNOs for co-locating; subsidised backhaul; and an independent dispute resolution process.

Ultimately, co-location remains a commercial decision for the MNOs. By the program's nature many of the areas being targeted are very thin markets, with very high costs and low population densities. Even with government assistance commercial returns in these areas can be extremely marginal, even with only one MNO operating in the area. The marginality of co-location in regional areas is supported by Australian Competition and Consumer Commission's recent Mobile Infrastructure Report. It highlighted co-location is common in the commercial metro areas of Australia but significantly less so in more remote locations (i.e. 92.9% of TPG sites in Major Urban areas are co-located compared to 4.8% in less populated Regional and Remote areas).[11]

The 2021 Regional Telecommunications Review found strong support for the MBSP and ongoing demand for further funding.

Regional Connectivity Program (RCP)

The RCP provides grant funding for telecommunications infrastructure projects aimed at delivering improved connectivity in regional, rural and remote Australia. The objective of the RCP is to improve access to broadband and mobile services where it can be demonstrated it will provide additional economic and social benefits to regional communities, including enhanced public safety, education and health. It therefore supplements, and complements, the baseline solutions provided under the universal service arrangements.

Applications under the RCP are assessed in accordance with publicly available program guidelines, with funding awarded following a merit-based assessment process, conducted by the Department. The final Assessment Report is reviewed by the Program's external probity adviser to assess its consistency with the Grant Opportunity Guidelines, Commonwealth Government Rules and general probity principles.

The value of the RCP in providing a placed-based approach to improving digital connectivity in Australia's regions was endorsed by the 2021 Regional Telecommunications Review.

The Commission notes concerns raised with the 2021 Regional Telecommunications Review that councils are increasingly being expected to bear the burden of providing telecommunications (p.33). Funding proposals are typically put forward by the telecommunications industry with community and/or council support. This should not be and need not be onerous but helps establish the relative benefit of servicing one locality over another. However, the funding program does not require funding contributions from local councils or communities. Contributions, whether in cash or kind (e.g. a site for facilities), may make a proposal more competitive, but they are not essential to a proposal's success. A review of successful RCP proposals indicates very few involved local government funding.

New programs

In recognition of the ongoing communications needs in regional Australia, such as those identified by the 2021 Regional Telecommunications Review, and pointed to by the Commission, the Government has committed $656 million in further funding in the October 2022 Budget to its Better Connectivity Plan for Regional and Rural Australia.

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[11] www.accc.gov.au/regulated-infrastructure/telecommunications-and-internet/regional-mobile-infrastructure-2022-23/public-consultation

Funding for the Better Connectivity Plan consists of:

- $400 million to improve regional mobile coverage and resilience
- $200 million for two further rounds of the Regional Connectivity Program
- $30 million for the On-Farm Connectivity Program
- $20 million for the National Audit of Mobile Coverage, and
- $6 million to extend the Regional Tech Hub.[12]

Other regional communications programs in the Budget are the:

- Peri-Urban Mobile Program – Rounds 2 and 3 (PUMP)
- Improving Mobile Coverage Round (IMCR) – Mobile Black Spot Program (MBSP)
- television transmission in Shortland NSW.

This is in addition to the further funding for the NBN discussed above.

Programs and a 'patchwork quilt'

The 2021 Regional Telecommunications Review noted community concerns about a patchwork quilt approach to telecommunications and this has been repeated by the Commission (p.33). The Agri-Tech Expert Working Group of the Australian Broadband Advisory Council used the expression 'salt and pepper connectivity'[13], perhaps with a different intention, but with the same connotation - that some people are getting more or better services and some people are missing out.

It is true that across Australia there are differences in the underlying technologies used to deliver services and differences in the services available in different areas. However, it is important to separate the technology from the services available as ultimately it is the services that matter.

As explained above, the universal service arrangements are designed to provide safety-net services to all people across Australia, at their place of residence and work. While there may be some variation in broadband performance across technologies, there is a consistent basic level of service available for people who want it. These services should be distinguished from other higher quality services, with greater capability or functionality, such as mobility or faster broadband. These may be provided broadly, particularly in urban markets, or on a localised basis, where this is commercial, or with the support of government funding.

Mobile services are provided commercially for the most part and are widely available in terms of the population if not the landmass. Terrestrial mobile expansion is being supported beyond its commercial footprint through targeted Government programs. Such funding is targeted to where it is expected to deliver the greatest utility.

However, universal mobile coverage using terrestrial technologies appears prohibitively expensive relative to the benefit, and there may be better technological options involving satellite.

Outside terrestrial mobile coverage, for example, people needing mobile coverage can buy specialised handsets or sleeves for their mobile phones that enable them to communicate via satellites.[14]

More recently, with the advent of new low-earth orbit satellite systems (leosats) there is growing interest in the possibility of communication via satellite directly from conventional mobile handsets. Proponents of this solution include AST, Lynk, and Starlink, joining much older satellite mobile providers like Iridium, Globalstar, Inmarsat and Thuraya, whose solutions have required specialised handsets.

In the case of the RCP, additional funding is provided to lift service levels (e.g. broadband or mobile), however, this funding is directed on the basis of additional social and economic benefit.

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[12] https://minister.infrastructure.gov.au/rowland/media-release/albanese-government-better-connect-inform-and-empower-australians
[13] www.infrastructure.gov.au/sites/default/files/documents/agri-tech-expert-working-group.pdf
[14] See, for example: Iridium, Globalstar, Inmarsat, Thuraya

While this approach could be said to be a 'patchwork quilt' or provide 'salt and pepper connectivity', all premises have access to an underlying basic level of service. Additional services are provided on a competitive basis with regard to the benefit, recognising a universal uplift may be neither affordable nor cost-effective.

Better delivery of universal services

As the Commission recognises, there has been a long-standing and enduring interest in USO reform amongst stakeholders, including the Commission itself. This is driven by the potential for more effective delivery approaches, particularly given the investment in mobile infrastructure, the NBN and satellite systems, including new leosat systems, changes in industry structure, and consumer preferences moving from fixed voice to mobile and broadband services.

The latest round of interest in USO reform can be dated to the 2015 Regional Telecommunications Review, which pointed particularly to the growth in mobile coverage and the rollout of the NBN, the apparent duplication of networks capable of delivering voice services, if not the same level of broadband, and changes in consumer preferences. This led the then Government to ask the Commission to examine USO delivery in 2016-17. The Commission's report[15] was widely understood as recommending existing voice services on the Telstra copper and wireless networks be migrated to mobile networks and the NBN fixed wireless where possible, with the remaining premises being migrated to satellite.

Following the Commission's report, in 2018 the Department undertook costing and related work into different USO delivery scenarios, to better understand the implications of the Commission's recommendations.[16] This found that voice services could be provided more efficiently using alternative platforms, such as the NBN and commercially available mobile and satellite networks. However, it also found that there would be countervailing costs for NBN Co in needing to upgrade its fixed wireless and satellite platforms to take on additional customers who currently receive ADSL services on Telstra's copper network, and would need to be migrated, most likely to the NBN.

The Department also identified strong consumer concerns about being migrated to alternative platforms that were perceived to be inferior, such as satellite, where voice services may experience greater latency than services delivered over terrestrial wireline or wireless networks, and broadband services may be more expensive and have greater limitations than services available over copper. Consumers also indicated that any alternative solutions should be robust and proven in the field, including in terms of reliability and quality. Given the increasing dependence on telecommunications, consumers also indicated a growing preference for access to more than one network to provide redundancy in the event that their primary network failed. This would mean they would still have access to what are seen as lifeline services in rural and remote areas. (Such redundancy could be provided, for example, by access to a landline and mobile or one or more satellite services.)

Since that time the Department has continued to look at these issues, including conducting the Alternative Voice Services Trials.[17] Technological developments may address some of the issues identified. The upgrade to NBN Co's fixed wireless and satellite networks, mentioned above, should improve its ability to take on customers choosing to migrate off the Telstra copper network. Similarly, low earth orbit satellite deployments promise low latency voice communications as well as high-speed broadband, and potentially better mobile connectivity. Telstra has also been developing a fixed voice product utilising its 4G network, which it trialled in the recent Alternative Voice Services Trials.

The Department continues to monitor relevant developments and changes in the market to look for better ways to deliver universal service over time. Apart from the scope to provide rural and remote consumers with

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[15] www.pc.gov.au/inquiries/completed/telecommunications#report

[16] www.infrastructure.gov.au/media-centre/publications/development-universal-service-guarantee-summary-report

[17] www.infrastructure.gov.au/media-technology-communications/phone/phone-services/universal-service-guarantee-telecommunications/alternative-voice-services-trial

better services more efficiently, there is a practical need to do so as the current USO contract with Telstra expires in 2032 and NBN Co's Sky Muster satellites will then be approaching end of life. Any changes in delivery arrangement will take considerable time to plan and implement to ensure a smooth and seamless transition. The Department remains interested in the scope to use commercial and more forward-looking platforms to deliver voice and broadband services in a more synergistic manner.

Area-by-area tendering

Experience tendering for telecommunications

The Commission asks whether the tendering of services is a feasible option. Apart from the 2001-2004 USO contestability trials the Commission cites (p.41), the Department notes four other relevant Australian examples. In 1999, then Communications Minister Richard Alston sought expressions of interest for the delivery of the USO.[18] While this did not lead to wholesale change in USO delivery, it paved the way for the contestability trials noted by the Commission. In 2006, then Communications Minister Helen Coonan established a competitive process to upgrade broadband in Australia to fibre-to-the-node (FTTN), focused on facilitative legislative change. In parallel, Minister Coonan launched a competitive process to provide faster broadband in regional Australia using a mix of wireless and ADSL technology. The Rudd Government was then elected in 2007 with an election commitment to direct $4.7 billion to the construction of a national FTTN network. All of these initiatives sought to find better delivery arrangement through competitive means, the last three, and particularly the last two, could be compared to tenders.

The experience with these exercises was that tendering for the provision of universal service type communications services nationally, let alone in regional areas, is possible in theory. However, it also demonstrates the difficulty of doing so, and achieving a satisfactory outcome, particularly on a large scale, to deliver services fundamental to our social and economic well-being and safety. By contrast, more focused and localised projects such as those delivered under the MBSP and RCP (which operate in much the same way as tenders) have proven far more successful, as discussed below.

Area-by-area tendering

The Commission has proposed future regional telecommunications service delivery might be undertaken on an area-by-area basis. *Prima facie*, area-by-area competition to supply services could provide better outcomes but there are a range of issues that we think need to be considered carefully and cautiously.

Issues include: whether the tender is for the provision of universal services in the area, the service or services to be supplied, the areas concerned, the prices for consumers, the performance levels, market structure, incumbent advantage, migration arrangements and costs. There are strong interlinkages between all of these. They are all critical matters when it comes to providing services that are fundamental to everyday social and economic life and safety. Commonwealth agencies are also obliged to ensure that value for money is achieved in the expenditure of public monies. Our experience in seeking to tender for universal service delivery on a large scale has shown it is difficult, while more localised competitive grants programs have been more successful. It is also important to work with industry on any significant changes in this area because, at the end of the day, telecommunications are technologically complex and lifeline and critical economic services are involved. It is industry that will deliver these services in practice in the field. It is vitally important that any solutions are workable and effective.

Products: The products to be delivered is a critical issue, both in terms of outcomes for consumers, the capabilities of suppliers, and costs. Consumers are looking for a suite of services, including mobile. In contrast to the products delivered under the MBSP and RCP, improvements in the delivery of universal services, and

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[18] www.aph.gov.au/parliamentary_business/committees/senate/environment_and_communications/completed_inquiries/1999-02/usc99/report/report, footnote 4

particularly voice services, may be the area with the most opportunities and the greatest benefit, particularly through more synergistic approaches, involving other services.

Suppliers: The services to be supplied, and whether supplied individually or as a bundle, may affect the providers able and willing to tender. Some providers specialise in one platform or service, others in multiple platforms and services, and some a full suite. There is now a degree of specialisation with the rollout of the NBN. As such the way the products are defined may affect the providers attracted and the degree of competition.

Wholesale supply: Consideration would also need to be given to how a tender handled wholesale supply. Ultimately a tender needs to provide retail service to customers but if it focuses on this at the expense of wholesale supply arrangements if may lose opportunities to foster competition, at least at the retail level. In the case of mobile services, the House of Representative Standing Committee on Communications and the Arts has recently started in inquiry into co-investment in multi-carrier regional mobile infrastructure.[19]

Areas: The choice of areas for tendering would also be a key issue. There are a range of possibilities from the national to the states and territories to smaller areas like regions, local government areas, Census areas, specific communities, or clusters or mixes of these. Areas should be familiar to consumers if it is likely providers will vary between areas. However, areas that are defined without regard to the typologies of carriers' networks could affect efficient service delivery. Smaller areas may attract greater competition and allow greater tailoring of solutions. Conversely, smaller tender areas may involve more transaction costs and increase the risk of regional variation and a 'patchwork quilt'. Smaller areas could encourage start-ups and smaller providers but their capability and long-term sustainability would need to be considered closely. The implications of providers cherry-picking more lucrative or desirable markets would need to be considered.

Incumbent advantage: Incumbent providers will likely have an advantage in the provision of services given their deployed infrastructure, access to spectrum in the case of wireless solutions, skilled field workforces, market knowledge and past funding, amongst other things. It may be difficult to counter these advantages, noting they may mean these providers are the most efficient providers and their assets that should be used.

Migration: Where consumers in a tender area are already using services, a tender process implies they may need to migrate if a new provider is the successful tenderer. Migration costs need to be factored into tender costs. Migration also takes careful planning, consumer education, sheer physical effort and time. Our engagement with regional rural and remote consumers also underlines the importance of consumer acceptance and awareness of any migration process to its success. From a practical perspective, the Commonwealth's contract with Telstra for USO delivery runs to 2032. While this may seem some way off, any change in delivery will take considerable planning and implementation and this takes time.

Cost: Our primary goal is for people across Australia to have the best possible telecommunications services, however, this cannot be divorced from the cost of doing this. Significant funding is provided to deliver basic telecommunications services to people across Australia. Tendering may find that the same services can be provided for less, or preferably, that a better set of services can be provided for less, for example, a service bundle that also provides greater mobility and faster broadband speeds. It is also conceivable, however, that a tendering process could find new solutions and cost more than current levels of funding. Tendering should not presume the Commonwealth would abandon existing arrangements for higher cost outcomes – that is, existing arrangements should remain the fallback in case tendering cannot deliver better outcomes.

Flexibility: Given the multiple and significant variables involved, it is likely any tender process should give tenderers maximum flexibility as to how they deliver outcomes in one area or an aggregate of areas, even up to national level, with a view to identifying the best overall outcome, whether it be a single proposal or an amalgam of proposals.

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[19] www.aph.gov.au/Parliamentary_Business/Committees/House/Communications/Mobileco-investment

Next steps

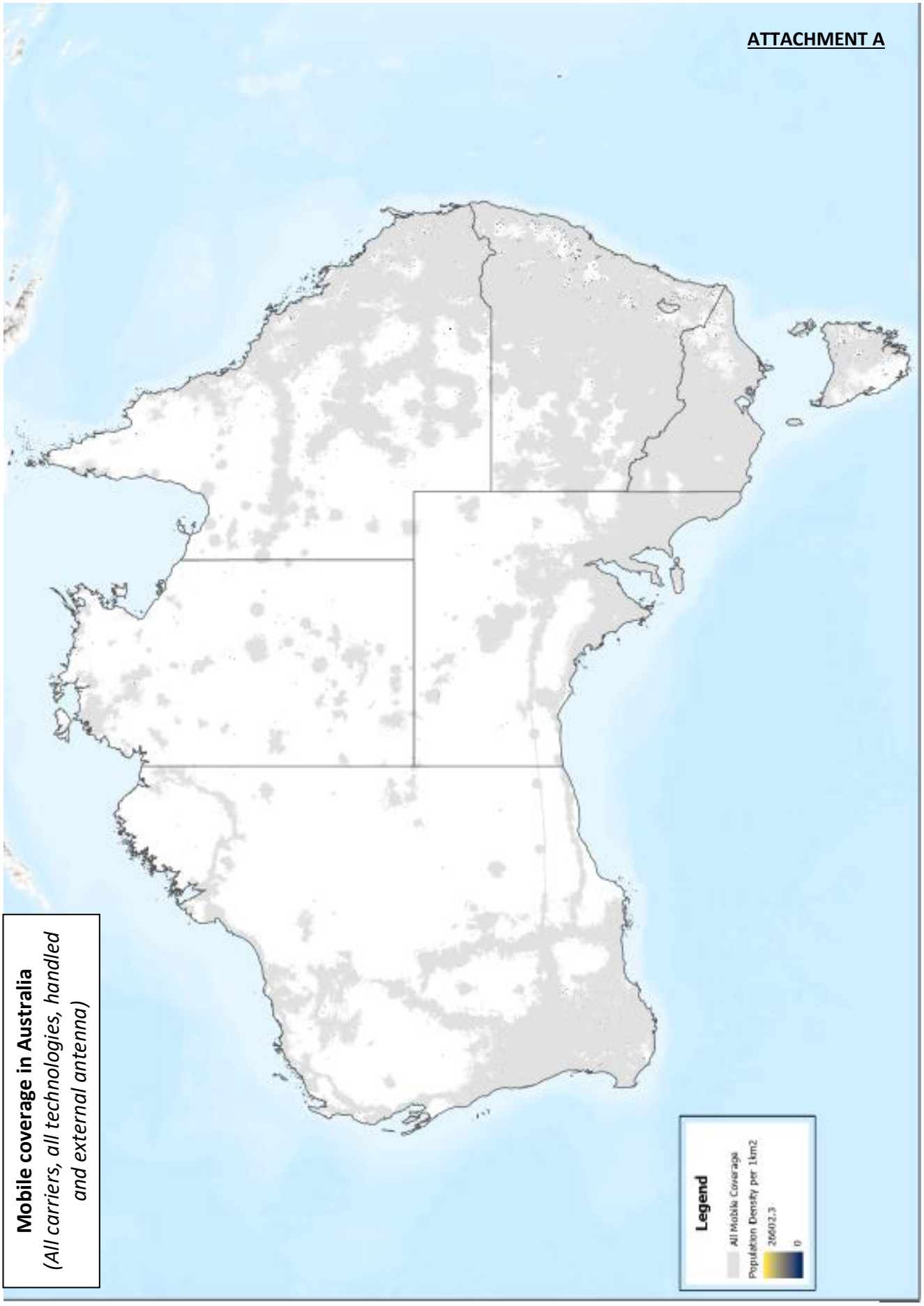
We appreciate the opportunity to outline our approach to regional communications service provision and some of the issues involved.

Like the Commission, we consider consultation on matters of such importance is vital. We would be happy to discuss any of the issues raised in this submission or otherwise of interest to the Commission in the communications area.

Our submission has focussed on the section 3.1 of your report because it is of particular relevance and interest to us. However, we are confident that we have useful experience and a solid understanding of the sector that could assist the Commission with this important work which is of great interest to us.

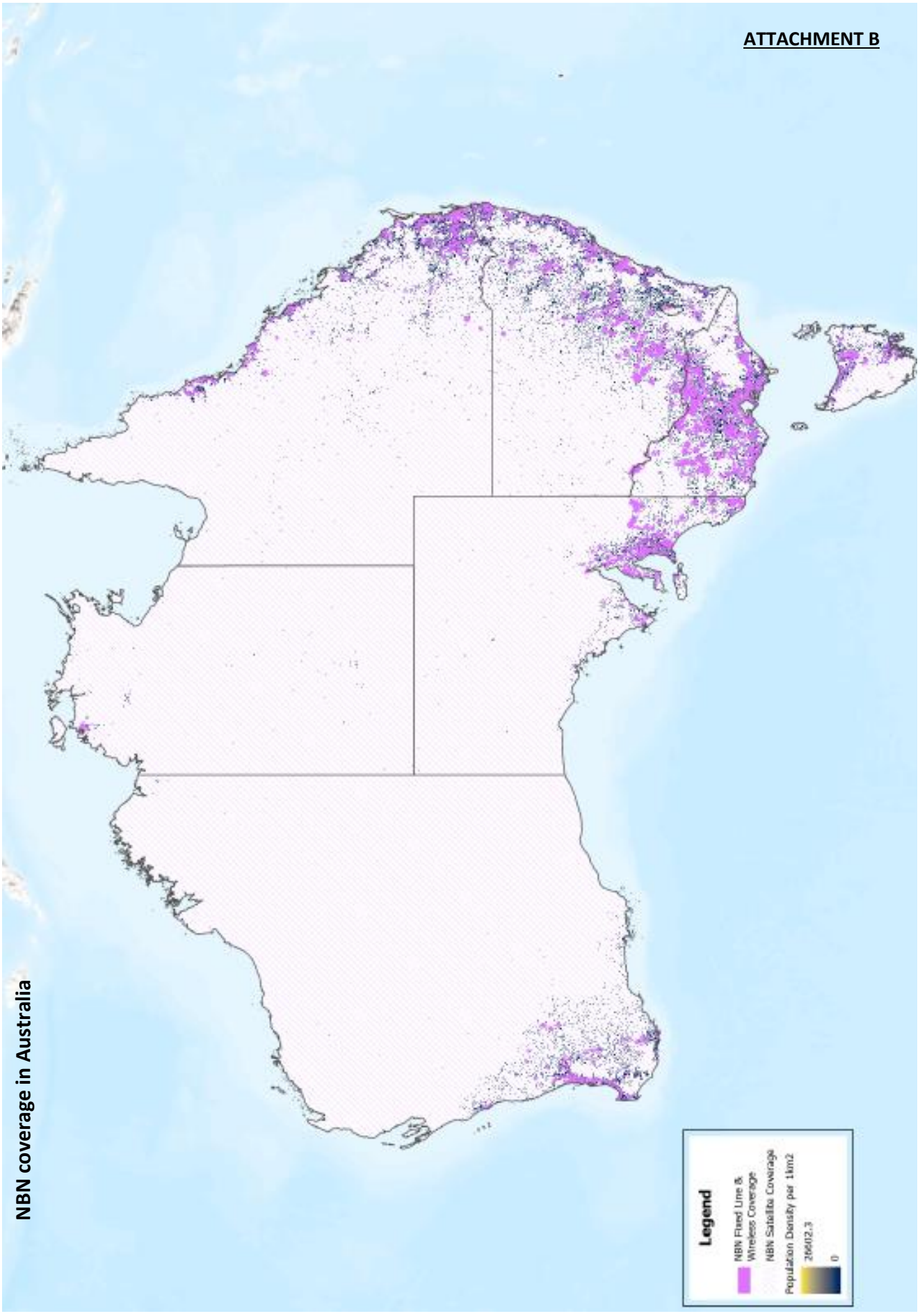
We trust this submission is useful in this regard. If the Commission would like us to provide more factual data, we can look at how we can assist with that. We also appreciate the Commission's work in this field as it helps us refine our own thinking on these matters.

ATTACHMENT A



Mobile coverage in Australia
(All carriers, all technologies, handled and external antenna)

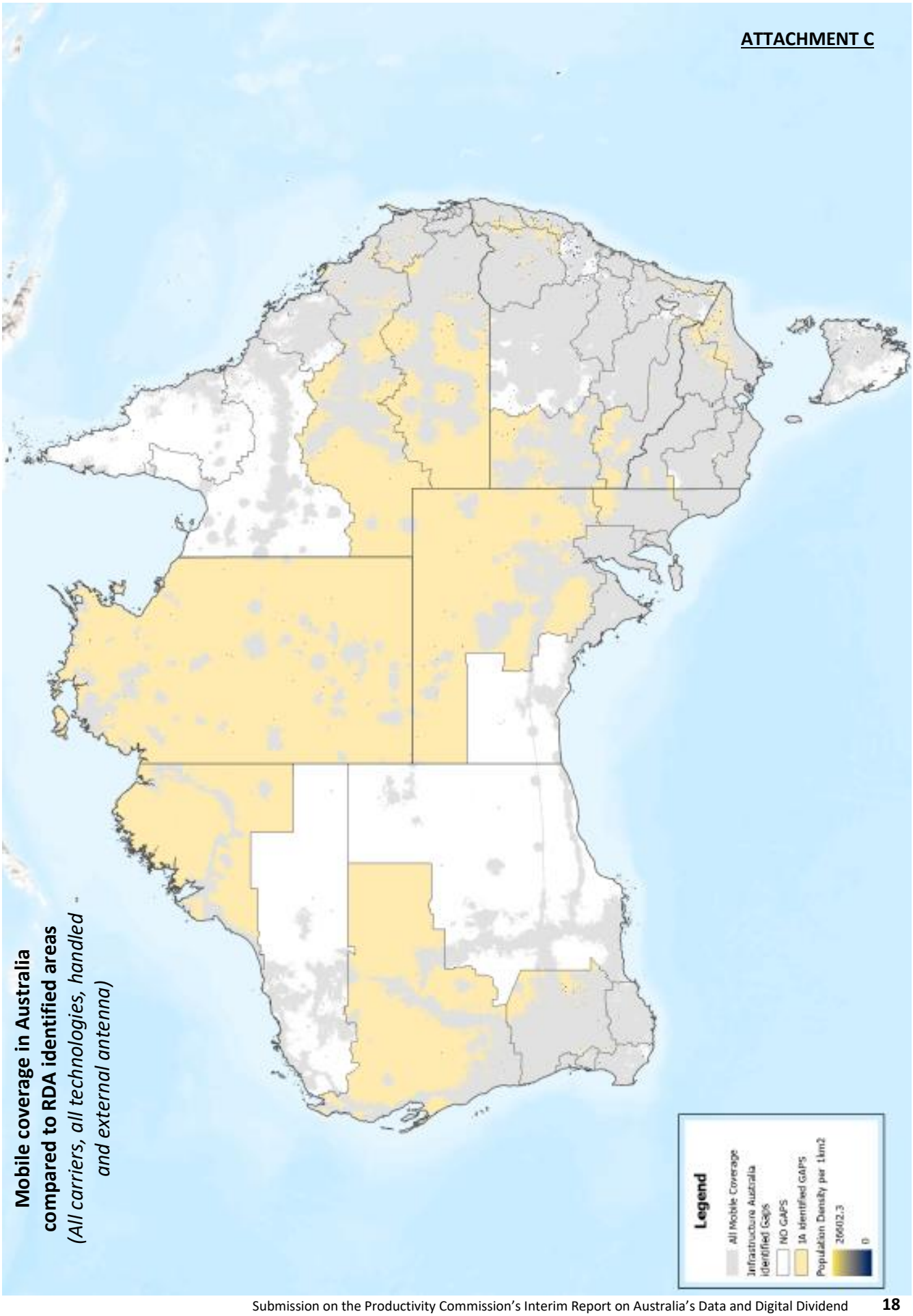
ATTACHMENT B



NBN coverage in Australia

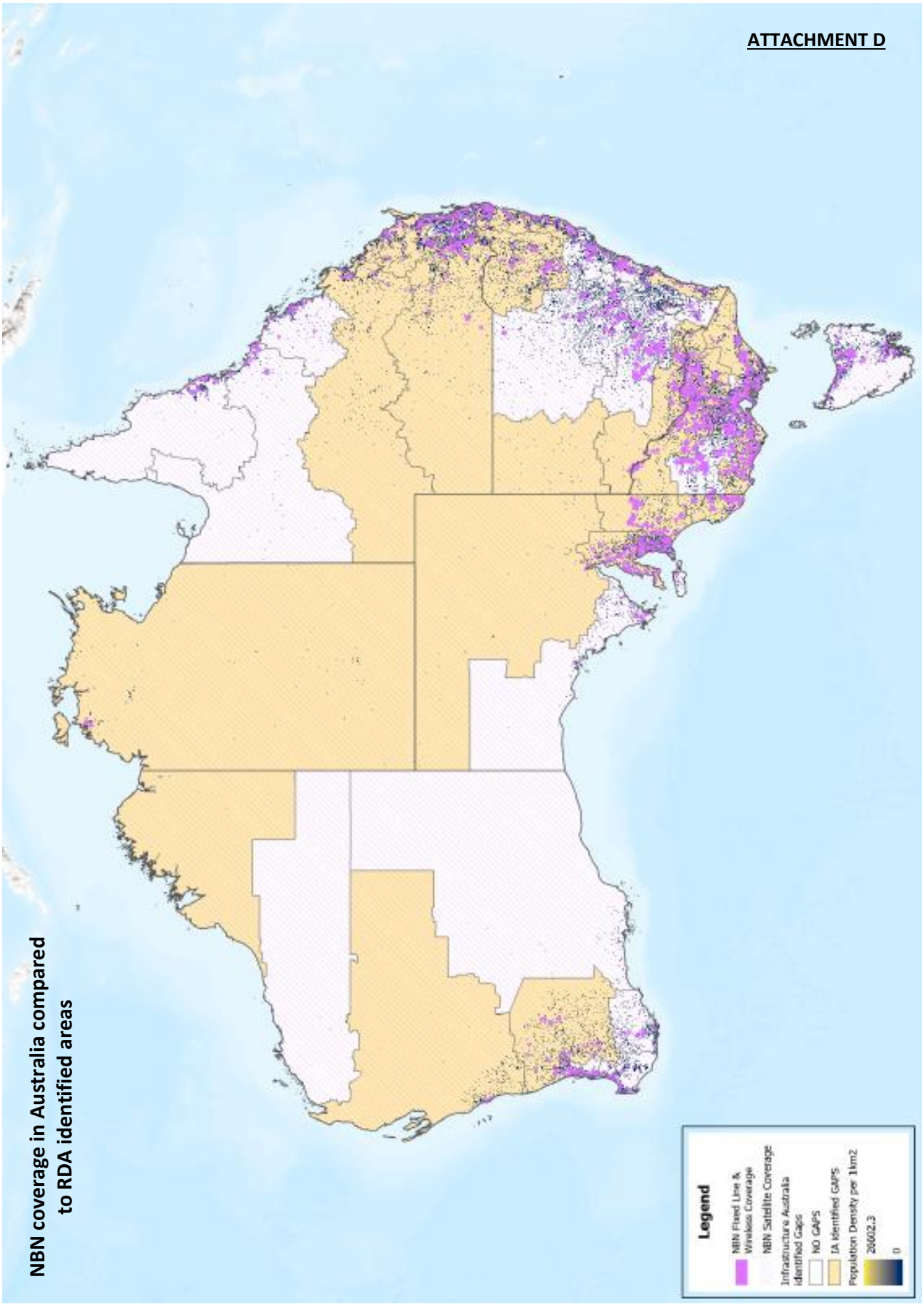
ATTACHMENT C

Mobile coverage in Australia compared to RDA identified areas
(All carriers, all technologies, handled and external antenna)

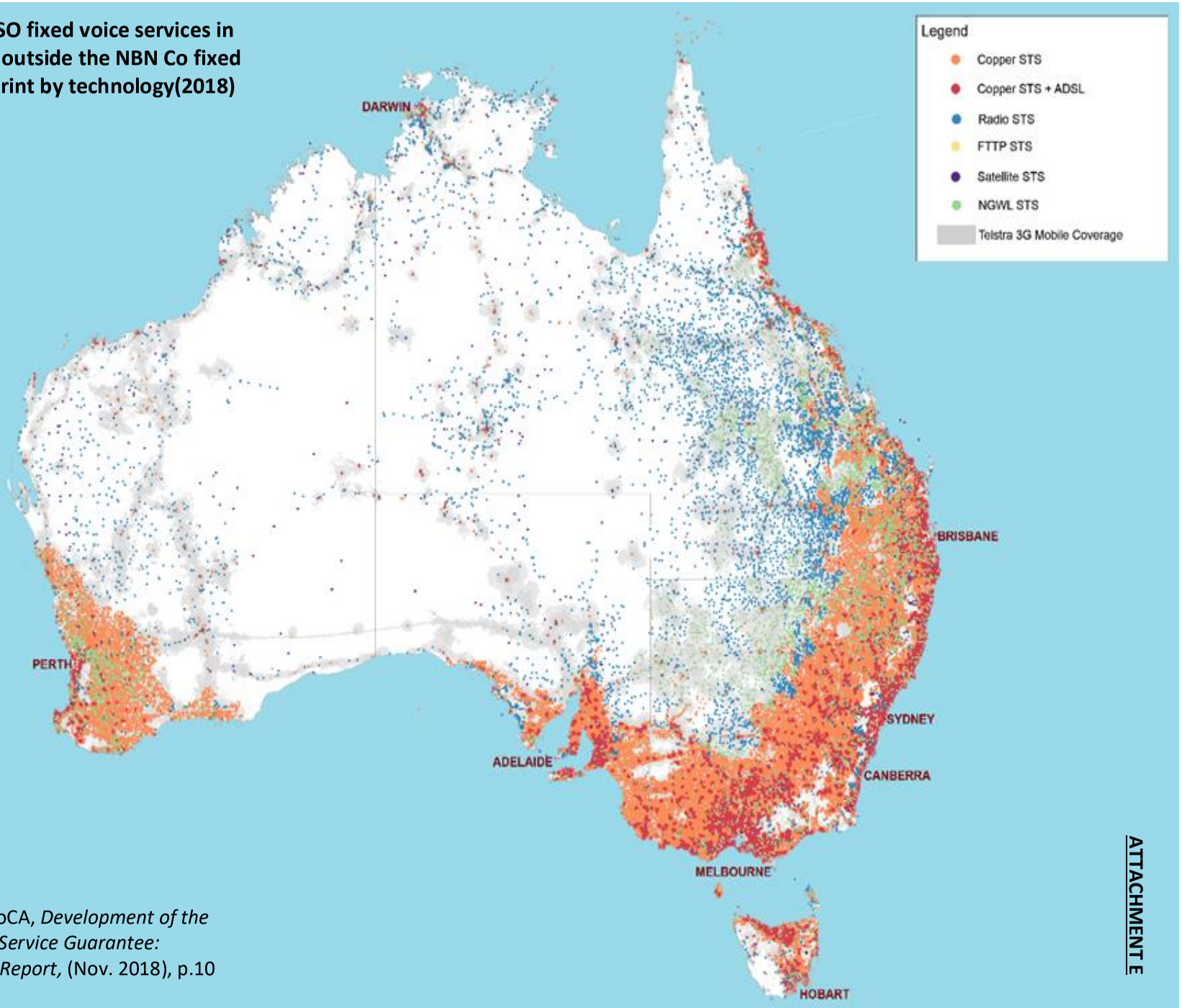


ATTACHMENT D

NBN coverage in Australia compared to RDA identified areas



Telstra USO fixed voice services in operation outside the NBN Co fixed line footprint by technology(2018)



Source: DoCA, *Development of the Universal Service Guarantee: Summary Report,* (Nov. 2018), p.10

ATTACHMENT E