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G21 - Geelong Region Alliance's Submission to the Regional Telecommunications Review 2021

September 29, 2021

The Hon Luke Hartsuyker
Chair, Regional Telecommunications Review Committee
secretariat@rtirc.gov.au

Dear Mr Hartsuyker

Thank you for the opportunity to make a submission to the Regional Telecommunications Review on behalf of the G21 – Geelong Region Alliance (G21). G21 is the formal alliance of government, business and community organisations working together to improve the lives of people within the Geelong region across the municipalities of Colac Otway, Golden Plains, Greater Geelong, Queenscliffe and Surf Coast.

Under the banner of G21, our region's leaders have developed a long-term regional plan and consult widely on an annual basis to determine regional priority projects and advocate for their implementation. G21 represents the voice of region and has a formal role, as the Regional Strategic Planning Committee, in advising State and Federal Governments on regional issues and priorities.

Our region is experiencing very high levels of population growth and telecommunications infrastructure provision is not keeping pace. G21 is concerned that the digital divide, between communities with good telecommunications infrastructure and those without, will damage the long-term economic prosperity of the region.

As noted by the World Bank, "The COVID-19 pandemic has revealed the critical importance of digital infrastructure, technologies, and services during times of crisis in enabling government, businesses, and society to continue to function. Beyond ensuring continuity and connectivity, digitalization sets the foundation for a more resilient and inclusive economic transformation."[1]

Please find following, G21's specific responses to the questions identified in the Report.

Yours sincerely,

Giulia Baggio
Chief Executive Officer
G21 – Geelong Region Alliance

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[1] https://blogs.worldbank.org/digital-development/digital-stimulus-packages-lessons-learned-and-whats-next

What telecommunications services are required in regional Australia to meet current and future needs? Are there any things regional communities and businesses need to do, but can't, on their existing services?

The key services required for current and future needs in the G21 Region include affordable and wide access to fixed-line broadband services; digital mobile networks capable of supporting data applications across the remoter parts of the region; public WiFi services beyond libraries; and LP-WAN (Low Powered Wide Area Networks) that can support Internet of Things (IoT) applications that are increasingly relevant to industry applications. [2]

G21 members advise us that access to the internet and mobile reception are the primary needs for individuals and businesses in our regional and rural areas, similar to the Australian-wide statistics.[3] This applies for all services, but especially health, education and training, which are major employers in the G21 Region.[4]

While these services are needed by the G21 Region overall, we also hear from our members a growing concern about the increasing 'digital divide' between those with and without access to telecommunications. The Digital Nation 2021 report reveals that "People with low levels of income, education and employment, **those living in some regional areas**, people aged over 65, and people with a disability are at particular risk of digital exclusion."[5] This is a critical issue for regional areas that requires a specific response.

Case Study 1: Losing the disconnected.

The consequences of the digital divide for young people are severe. Mark De Campo is leader of Youth Development, at Golden Plains Shire. Stretching between Geelong and Ballarat, Golden Plains consists of 56 small communities, often with very poor telecommunications reception and many black spots.[6]

In moving to online delivery of youth programs due to COVID-19, Mark found that young people's existing physical isolation was further compounded by their lack of mobile reception. Mark relays how they will tell him "I'm just going to walk down to the bottom paddock so I can talk to you".

"We are constantly checking in with our young people, and we hear that they are bored, they have lost a sense of purpose, having difficult times at home and nowhere to go." Students are missing out on tertiary education because they could not connect to remote learning, finding it hard to prepare for jobs, and losing touch with each other.

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[2] https://www.rdv.vic.gov.au/__data/assets/pdf_file/0003/1930863/Barwon-Digital-Plan-12942-DJPR-RDV-Regional-Partnerships-FINAL-FEB-2020-web.pdf
[3] https://www.acma.gov.au/publications/2021-05/report/digital-lives-younger-and-older-australians
[4] https://www.acma.gov.au/publications/2021-05/report/communications-and-media-australia-how-we-use-internet) (https://www.acma.gov.au/publications/2021-04/report/communications-and-media-australia-how-we-communicate
[5] https://www.goodthingsfoundation.org.au/news/digital-nation-australia-2021/ p.4
[6] https://beta.nationalmap.terria.io/

"But what is worse, is that often the most vulnerable young people don't log in." Mark says. "We are feeling helpless, if we can't engage with a young person online we don't know how to support them. We feel out of options. We know there is risk taking behaviour that we can't do anything about."

"There is a fundamental flaw with online youth programming. The young people who you are engaging with are already connected but there is no way to reach the ones who have no digital access. They are getting completely forgotten."

This digital divide also exists in the G21 region's public secondary schools. Especially during the COVID-19 pandemic, we know that in many local schools, students and teachers can't access the resources they need due to internet bandwidth limitations. Without high-capacity internet, students and teachers can't adequately:
- use information sites, e-books or education platforms
- stream online educational classes and events
- participate in high-definition video conferencing
- share resources between schools, or
- deliver the curriculum electronically.

This is a key priority project for G21 – Geelong Region Alliance. If funding allows, the G21 Region '*Digital Learning Hub*' will deliver optimum high-speed internet via Australia's Academic and Research Network (AARNet), providing access to a truly unique digital learning network. AARNet, a not-for-profit research and education network jointly owned by the CSIRO and Australian universities (including Deakin University) will provide each partner with a high-speed connection of 1Gbs to meet the learning requirements of their students, teachers and wider community. With their own extensive fibre optic cable network, AARNet is orders-of-magnitude faster than the NBN[1]. This new network will allow multiple classes across each school to use the internet simultaneously without performance issues.

Most private secondary schools in the G21 region have themselves funded access for their students and teachers to AARNet, furthering the divide between public and private secondary schools within our region. Unless that changes, incrementally, students in our region will become less competitive in the labour market of the future, compounding the existing socio-economic divisions and skill gaps.[7]

Importantly, G21 recognises that digital literacy needs to be delivered alongside digital infrastructure. For example, the G21 Education Pillar brings the providers of digital infrastructure together with those who deliver the digital literacy, to ensure that both sides of this issue are considered in parallel.

What changes in demand, barriers or challenges need to be addressed when it comes to telecommunications services in regional, rural and remote Australia?

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[7] https://g21.com.au/project/g21-regional-secondary-schools-and-community-digital-learning-hub-and-ecosystem/

The G21 Region is in sustained growth, with multiple new developments to the south, north and west of Geelong as well as outside regional centres such as Torquay and Ocean Grove. According to ABS data, more than 9100 people left Melbourne and moved to Geelong in the 2019-20 financial year, with a total of 15,000 Australians choosing to relocate to the region, the third highest net migration figure in Australia. In the full year to June 2021, Greater Geelong saw an influx in capital city movers, with an increase of 26%.[8]

The demand for new telecommunications infrastructure in new growth areas will be continuing, if not accelerating. COVID-19 has also hastened the changing workforce needs across the region. In the G21 region, as elsewhere in Australia, the rapid changes in service delivery, education and training, as well as business innovation, all require stable and accessible telecommunications.[9] [10]

The Digital Nation 2021 report identifies the three key barriers leading to the 'digital divide' as ability, affordability, and access. Affordability includes both the costs of hardware (mobile phone or device, or computer) and the ongoing fees for connection to the internet (data for mobile or home use). Access involves the ability to connect to network coverage, but also access to appropriate hardware. These barriers all impact the digital divide in regional and rural communities.[11]

Although some evidence suggests there are no major issues for internet access in G21 regional centres[12] the lived experience of residents, especially in areas of disadvantage, is very different:

> "One in six Barwon households do not have internet access compared with the average of one in eight in Melbourne. Digital access is even lower in some of Barwon's more disadvantaged areas – one in four households in Colac and Corio-Norlane do not have access to the internet."[13]

Case Study 2: Lost opportunities

The 'digital divide' doesn't just have an impact today, but can fundamentally change lives, by shutting down future opportunities and halting career trajectories.

Leah Meade, former Jobs Victoria Mentor (employment consultant) in Colac reported the experience of one of her clients in 2020. Mike (*not his real name), a 17-year-old early school leaver, wanted to enter the workforce, and was hoping to become an Aged Care Worker. Leah explains: "With COVID, the only option was for him to do training online, and he didn't

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[8] http://www.regionalaustralia.org.au/home/regional-lifestyle-continues-to-appeal/
[9] https://aifs.gov.au/cfca/webinars/digital-divide-and-remote-service-delivery
[10] https://g21.com.au/resource/g21-region-profile-2019-vital-statistics-of-our-region/
[11] https://digitalinclusionindex.org.au/the-index-report/report/
[12] https://www.rdv.vic.gov.au/__data/assets/pdf_file/0008/1931084/Barwon-Digital-Plan-Supporting-Information-doc-Design-edit-FINAL-24-Feb-web.pdf
[13] https://www.infrastructurevictoria.com.au/wp-content/uploads/2021/08/Regional-Brochure_Barwon.pdf
(p.7)

have a laptop or internet. We could get him a laptop and an internet dongle, but then we realised that he didn't have any space to do his training at home." Moreover, home was a chaotic environment, and he was concerned that if he had a laptop, it might be taken and sold for cash. Leah continues, "Then the ongoing costs of the internet dongle were astronomical as you need a lot of data for training. It all got too hard and he gave up, before he even began – he couldn't see the point." Ultimately, a motivated and supported young man, hoping to work in an industry with labour shortages, is now disengaged owing to the limitations of his telecommunications.

Anecdotal evidence suggests there are many more like Mike in rural centres across the G21 Region. In Colac, free Wi-Fi is available at the local library (based at the secondary school) and Tourist Information Centre, and neither location is designed to be welcoming for disengaged young people – instead, they congregate at the MacDonald's and use the Wi-Fi for the cost of a hamburger.

Across the G21 region, smaller towns lack a youth-friendly environment to study, with free Wi-Fi and access to computers, or practical systems of loan for hardware. The young people whose career paths have been hindered by COVID-19, are finding that they are further disadvantaged by their lack of telecommunications, and their futures are being destroyed.

How have the Government's policies and programs affected telecommunications service outcomes in regional, rural and remote Australia? How can these be improved?

Recent federal initiatives continue to boost the telecommunications services, especially digital and fixed access.[14] [15] In the G21 region, however, five major industries, namely Healthcare & Social assistance, Education & Training, Tourism, Retail Trade and Agriculture & Forestry, all require intensive upgrades to their digitisation over the next 3 – 5 years to support technology adoption and competitiveness. Digital skills of their workforce will be critical to support this transition.[16]

The 'Building Digital Capability' project (part of the Regional Digital Fund) identified to the G21 Education Pillar that there are shortfalls in the digital specialisation training opportunities in the G21 Region.[17] Not only will the lack of a skilled workforce impact the productivity of digital services businesses, but it will restrict their capacity to offer support more widely throughout the region. A collaborative approach to skills-based training has been commenced, and with support, could work towards solving this key issue.

How do service reliability issues impact on regional communities and businesses? How do outages, including in natural disasters, impact on communities and businesses?

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[14] https://www.dta.gov.au/digital-transformation-strategy
[15] https://www.pm.gov.au/media/modern-digital-economy-secure-australias-future
[16] https://www.rdv.vic.gov.au/__data/assets/pdf_file/0003/1930863/Barwon-Digital-Plan-12942-DJPR-RDV-Regional-Partnerships-FINAL-FEB-2020-web.pdf p.13
[17] https://algorithm.data61.csiro.au/global-trade-and-investment-megatrends-the-new-normal-report/

In the context of COVID-19 pandemic, the digital divide in rural and remote areas "has a risk of widening the vaccine divide, potentially leading to negative health outcomes." Without access to accurate information, ability to set up appointments and record outcomes, those without good telecommunications are further disadvantaged. In this situation their disadvantage, however, impacts the risk to the health of the whole community.[18] [19] We are also beginning to see the additional layer of disadvantage this creates, with unvaccinated job seekers now ineligible for job vacancies, or staff losing jobs where employers are demanding vaccinations. Access to better telecommunications is needed to reach communities where misinformation is flourishing.

Risks and challenges of service reliability in the G21 Region throughout natural disasters such as bushfires are consistent with Australian-wide issues. Small remote towns such as Forrest in Colac Otway Shire have 'one road in, one road out', significantly raising their risk profile and reliance on strong telecommunications at times of disasters.[20] [21]

Therefore, the potential to consider data roaming solutions has been raised by members of G21. We understand that the Federal Government's Mobile Black Spot Program "will test ways the Mobile Network Operators can roll out shared mobile infrastructure to reduce cost and provide new coverage from more than one carrier"[22] in remote areas of Australia. We believe this functionality would also help manage responses to disasters such as bushfires in the G21 Region. We suggest that the three levels of government and telecommunications providers explore the option for emergency roaming between mobile network operators during an emergency.[23]

How did the use of digital services change for regional consumers and businesses during the response to the COVID-19 pandemic? What insights for future service delivery does this provide?

With the increasing reliance on digital communication and working from home owing to the COVID-19 pandemic, there has been an increase in people moving to rural and regional areas. Consequently, the G21 region is experiencing a changing workforce demographic, as more white-collar workers take advantage of workplace flexibility. The need for access to secure and reliable service delivery in the G21 region is therefore also increasing. [24]

The pandemic is impacting significantly on how organisations do business in the region. While there have been some positive outcomes in uptake of new technologies, the existing inequalities are being accentuated and becoming further entrenched.

[18] https://blogs.worldbank.org/digital-development/addressing-digital-divide-and-inequality-road-equitable-covid-19-vaccine

[19] https://www.brookings.edu/techstream/how-to-build-more-equitable-vaccine-distribution-technology/

[20] https://www.frontiersin.org/articles/10.3389/feart.2018.00183/full#h4

[21] https://www.undrr.org/publication/disaster-risk-reduction-australia-status-report-2020

[22] https://www.infrastructure.gov.au/media-technology-communications/phone/mobile-services-coverage/mobile-black-spot-program

[23] https://www.infrastructurevictoria.com.au/victorias-infrastructure-strategy-2021-2051-home/

[24] ttps://csrm.cass.anu.edu.au/research/publications/service-usage-and-service-gaps-during-covid-19-pandemic

Case Study 3: The 'digital divide' in business

Findex is one of Australasia's leading providers of integrated financial advisory and accounting services, delivering comprehensive advice across the full spectrum of financial services. With offices throughout the Barwon Region, including a large presence in Geelong and Colac, it is fully involved in the changes that COVID have brought to business delivery.

Adam Murray, partner in the Geelong office, identified that Findex has transitioned well to the new reliance on technology during lockdowns, and that most clients also coped. It was the remote, often agricultural businesses, that were negatively impacted. Adam explains, "They can do their daily work on the farm, unaffected by COVID, but when they need to interact with others to support their business – that is when the issues arise."

Findex's preferred model is to visit clients onsite, to fully understand their individual circumstances. In the pandemic, the team has been relying on video chat technology to share screens and work through detailed financial issues, and for some clients, this has been restrained in some cases by either through lack of connection (including mobile reception) or lack of digital capacity.

Clients without good internet or online skills, often older and more remote, have been relying on phone calls and mail to communicate. Adam believes "these clients are suffering and getting left behind. Those with good tech could adapt and they are ok. It is the ones without access that are getting further disadvantaged because they miss out on the full interaction. This is especially the case in areas with poor internet and mobile reception."

COVID has accelerated the adoption of technology and has made people more willing to use online platforms. According to Adam, "This has actually helped make the business more efficient as we can be more responsive. The big problem is just the lack of mobile coverage and reliable internet connection – it has even been an issue for me working from home, just 5kms from the Geelong ring road." [25] [26]

How can investment in telecommunications infrastructure work with other programs and policies to encourage economic development in regional Australia?

Many G21 members, such as Golden Plains Shire, note that the inconsistent access to telecommunications is a major challenge to economic development and this has been exacerbated throughout COVID-19.[27] Other regional areas, including Colac Otway Shire, identify that locating and attracting appropriate staff is the primary issue impacting their economic development, but this also relates to telecommunications infrastructure.

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[25] https://journals.sagepub.com/doi/10.1177/2056305120948168
[26] http://www.roymorgan.com/findings/7203-usage-of-voip-apps-whatsapp-skype-viber-messenger-australia-december-2016-201704050917
[27] https://www.goldenplains.vic.gov.au/sites/default/files/Economic-Development-Tourism-Strategy20172021_FINAL.pdf

Firstly, enhanced digital access will increase opportunities to attract new workers, both those who live locally but need flexible work, and those who do not live locally, but can fulfil their roles online from other locations. This will create a diversity of workforce and potential for innovation. With more reliable telecommunications services, businesses in regional areas can support innovative remote service delivery models and flexible working arrangements to benefit their workforce.

Secondly, improved digital infrastructure enables access to skills development, both for job seekers and for up-skilling existing workers. By supporting staff to update and improve their digital skills, employers can meet their need for trained staff to progress internally, and as they move up, this creates new vacancies for entry level skills. Currently, employers in Colac Otway Shire report low digital capacity in terms of both skills and infrastructure, amongst their current workforce and potential employees. A strategy to strengthen digital skills, based on better access and improved digital infrastructure, is a key way forward. [28]

As a region experiencing massive growth, G21 has led the way in strategic planning (refer G21 Regional Growth Plan[29] and G21 Region Growth Plan Implementation Plan[30]). The cost of retrofitting high quality telecommunications into regional areas is often prohibitive. In the new areas of growth in the G21 region, such as Lovely Banks, we recommend that three levels of government support developers to understand the need to design and cost telecommunications infrastructure at the early planning stages, before construction commences.

What role could innovation, including new models, alternative investors or new ways of doing business, play to encourage investment in regional telecommunications infrastructure? What are the barriers?

The barrier to innovation in regional and rural areas is primarily connectivity. As noted by the World Bank, "connectivity is essential for innovation", meaning it relies on effective telecommunications infrastructure to facilitate the connections which underpin research and innovation.[31] Connectivity is essential for rural and regional communities in the G21 Region to function alongside their metropolitan neighbours, and to have the chance to bring their innovations to the benefit of all of Australia.

G21 collaborates closely with Deakin University and the City of Greater Geelong to understand the economic opportunities for the region. In 2017, the Geelong Economic Futures Report[32] identified options for attracting large-scale investment and economic growth and stability, such as developing Avalon as a future freight precinct and industrial scale advanced carbon manufacturing. Today, while some of these projects are continuing

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[28] https://www.colacotway.vic.gov.au/Business-investment/Economic-Development-Investment
[29] https://g21.com.au/resource/g21-regional-growth-plan-2013/
[30] https://g21.com.au/resource/g21-regional-growth-plan-implementation-plan-2013/
[31] https://blogs.worldbank.org/digital-development/accelerating-access-digital-infrastructure-time-now
[32] http://g21.com.au/wp-content/uploads/2020/08/geelong_economic_futures_report.pdf

successfully, COVID-19 has changed our focus. For future large-scale economic development, we require an affordable and strong foundation of telecommunications support.

Even with the inconsistent access to telecommunications, start-ups and new businesses are emerging across the G21 Region[33] supported by Runway HQ[34] and other local entrepreneurial networks. To strengthen and encourage further innovation, robust digital infrastructure is key: "in a modern economy it is the ecosystem around that capability – the region's entrepreneurs, business start-ups and the strength of their connections to the R&D presence – that will drive the economic outcomes from innovation."[35]

How can different levels of Government, the telecommunications industry and regional communities better co-ordinate their efforts to improve telecommunications in regional Australia?

The G21 Region is well known for being a leader in coordination and collaboration, with the G21 – Geelong Region Alliance now in its 19th year.

Case Study 4: G21 – Geelong Region Alliance

The model of the G21 – Geelong Region Alliance offers proven evidence of the benefits of collaboration between all levels of government and business. As a place-based initiative founded by five local governments, G21 works closely with, and provides advice to, Regional Development Australia (RDA), the Barwon Regional Partnership, and state and federal governments on the region's needs and priorities.

The G21 alliance consists of hundreds of members, including municipal councils, businesses, community organisations and government agencies. They are supported by more than 300 community leaders and specialists who are passionate about the future of the G21 region and who volunteer their time to be involved as G21 Pillar (working group) members. This achieves an effective flow of information, encompassing broad and diverse 'on the ground' evidence, supported by research and subject matter experts, to enable G21 to advocate and provide a voice for rural and regional communities.

The G21 Region offers a unique coordination approach to support local partnerships. A recent example is the partnership between the City of Greater Geelong with Deakin University, to provide data fibre on the Bellarine Peninsula. This project will see AARNet build optical fibre out to the Queenscliff Marine Science Centre to connect the centre to the AARNet network. This means that other organisations in the Bellarine Peninsula with a research and education mission will also be able to access AARNet's ultra high-speed network and services for research and education, including the City of Greater Geelong, primary

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[33] http://insight.regionalaustralia.org.au/#
[34] https://runwayhq.co/
[35] http://www.regionalaustralia.org.au/home/wp-content/uploads/2016/06/Innovation-In-Regional-Australia-Spreading-the-Ideas-Boom-1.pdf

schools, secondary schools, libraries and community hubs.[36] This provides competitive services to incumbents and will stimulate competition, which then drives down prices for consumers.

G21 is in a strong position to provide a shared vision of the potential strategies for improved rural and regional telecommunications systems through the Pillar members and Deakin University, noting that "…a shared regional vision needs to be grounded in an analysis of regional strengths and weaknesses. The core challenge for regional innovation policies is to ensure a favourable environment for entrepreneurship and business growth to create jobs."[37]

We welcome the recent announcement of collaboration between the Victorian State Government and NBN Co, to invest further in the region.[38] In particular, the potential to expand Business Fibre Zones to further and more remote areas of the region would be welcomed.[39]

G21 also supports the recent submission from the Regional Australia Institute, suggesting that a platform allowing the sharing of data and information between Government, industry and communities could be extremely valuable to regional development and decision making for all parties involved.[40]

What changes to Government investment programs are required to ensure they continue to be effective in delivering improved telecommunications?

While G21 commends the investment by the Australian government to enhance connectivity in rural and regional areas as part of the Regional Connectivity Program, such as Teesdale,[41] this challenge is far from over and will need ongoing and long-term investment.

G21 has also identified two other areas where investment is needed, firstly strengthening core data infrastructure. Investments are needed in digital solutions to store, compute, and safeguard big data such as cloud infrastructure, strengthening cybersecurity, and sustainable supercomputing capabilities.

Secondly, investment is needed to accelerate the digitalization of the economy. As noted by the Australian Government's Digital Economy Strategy[42], investment support is needed for digitalization of small-medium enterprises (SMEs) and to help build a digital-driven ecosystem, such as financial support and resources for businesses to adopt digital

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[36] https://news.aarnet.edu.au/supporting-landmark-aquatic-projects-at-deakin-university/
[37] https://www.oecd.org/regional/regionalinnovation.htm
[38] https://www.nbnco.com.au/corporate-information/media-centre/media-statements/nbn-co-and-victorian-government-announce-combined-investment-to-lift-the-digital-capability-of-victoria)
[39] https://www.nbnco.com.au/corporate-information/about-nbn-co/corporate-plan/business-fibre-initiative
[40] http://www.regionalaustralia.org.au/home/digital-governance-uber-regions/)
[41] https://www.communications.gov.au/what-we-do/internet/regional-connectivity-program
[42] https://digitaleconomy.pmc.gov.au/

technologies and processes.[43] G21 looks forward to driving and supporting collaborative opportunities in this area and is well placed to support the development of appropriate partnerships.

How can regional consumers be better supported to identify, choose and use the best connectivity options for their circumstances, as well as to understand and use their consumer rights?

To enable regional consumers to identify their most appropriate connectivity options, the first task is to close the digital divide and offer equitable choices.

The solutions are not solely financial, although affordability is the foundational requirement. The Digital Divide Council notes that "An issue that broadens the digital divide is 'participation inequality' where users lack the skills to use it."[44] Inclusive and appropriate programs for building capacity and skills are needed at many levels throughout the G21 region, not just in remote rural areas but where there are communities with barriers to digital engagement, such as CALD communities, disengaged youth, and the elderly.

Understanding the needs of these different communities is essential to help regional consumers select appropriate options. EY's major new research program 'Connected Citizens' recognises how the digital needs and expectations of different citizen groups, or personas, vary in relation both to access and skills. EY argues that governments need to tailor responses for each of the main groups identified: "Greater personalisation will help improve public policy design, deliver more efficient and effective public services, and strengthen the relationship between government and citizens."[45]

To what extent is public information on connectivity options, including predictive coverage data and speeds, sufficient to help regional customers make informed decisions? What other information is needed?

Public information about connectivity options is problematic, given the digital divide. The issue is compounded, as EY notes, "what happens to (those who) may need the most support — if digital channels are the only way to access some services? Could they miss out on services and opportunities, and see the structural inequality they suffer from get worse?"[46]

In other words, those who need the services most, may not even find out about them given the use of telecommunications to provide public information. One solution is to deliver targeted information (in various formats – leaflets, radio etc) to vulnerable groups to ensure they receive practical guidance about how they can make the right choices.

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[43] https://blogs.worldbank.org/digital-development/digital-stimulus-packages-lessons-learned-and-whats-next
[44] http://www.digitaldividecouncil.com/top-five-digital-divide-solutions/
[45] https://www.ey.com/en_au/government-public-sector/how-can-clever-governments-choose-to-close-the-digital-divide
[46] https://www.ey.com/en_au/government-public-sector/how-can-clever-governments-choose-to-close-the-digital-divide

Ideally, telecommunications providers should provide accurate information about new services and options so that choices are regularly updated. Improving the ability to change providers with no or low cost would also reduce risk of disenfranchisement of vulnerable communities. Further education about consumer rights, by raising awareness of their protections in law, will also help consumers make informed decisions.